FORWARD 2040

RPA 15 Long Range Transportation Plan

AREA 15
REGIONAL PLANNING COMMISSION

MAHASKA · KEOKUK · WAPELLO
JEFFERSON · DAVIS · VAN BUREN

PLANNING FOR BETTER COMMUNITIES

Adopted: June 27th 2019

Prepared by the Area 15 Regional Planning Commission
P.O. Box 1110
Ottumwa, IA 52501
(641) 684-6551

Adopting Resolution

A RESOLUTION ADOPTING THE RPA 15 2020 LONG-RANGE TRANSPORTATION PLAN AS THE OFFICIAL TRANSPORTATION PLAN FOR REGIONAL PLANNING AFFILATION 15

WHEREAS, the Area 15 Regional Planning Commission did prepare a Long-Range Transportation Plan which identifies existing transportation facilities, current transportation needs, anticipated transportation projects for the next five years, transportation goals and objectives for the next twenty years for REGIONAL PLANNING AFFILIATION 15; and

WHEREAS, it is a requirement of the Fixing America's Surface Transportation Act (FAST Act) that the transportation planning process and long-range planning be continued, and that all modes of transportation be included in this process;

NOW, THEREFORE, BE IT RESOLVED that REGIONAL PLANNING AFFILIATION 15 adopts the 2020 Long-Range Transportation Plan as the official transportation plan for the region.

Passed this _____ day of _____, 2019.

_____

Chairperson
Regional Planning Affiliation 15

Table of Contents

Chapter 1: Introduction and Overview

The purpose of transportation planning is to develop and maintain a transportation system that will provide a safe, efficient and economic means of moving people and goods. The system should promote the movement using multiple modes. It should provide an easy transition from the local system within a community to the wider regional system. It should also enhance alternative modes for non-drivers including public transportation and bicycle and pedestrian systems.

An important part of developing and maintaining a transportation system is reviewing its current condition and identifying future needs based on existing conditions, usage and demographic and economic trends. Roads and bridges that experience heavy usage will deteriorate faster and need more maintenance or be replaced sooner. Areas experiencing growth may require additional capacity roads or in public transportation. Roads and streets with high traffic or truck traffic may require safety improvements. Bicycle and Pedestrian accommodations are becoming important in communities to enhance livability.

The 2040 Long Range Transportation Plan for Regional Planning Affiliation 15 will document the current conditions of the region's transportation system, identify the transportation needs and priorities. The plan has a horizon year of 2040 and attempts to look at the needs of the system in both the short term and the longer term. Shorter term needs are based on the current condition of the system and local capital improvement plans. Longer term needs include projects based on current condition that are deferred due to other projects taking priority or financial constraints. It will also include needs based on past trends and projected development. Since these needs are based on a snapshot in time, it is necessary to review and update this document to take into account changing developments and needs. To adjust for this, the document will be revised every five years.

Funding is necessary to achieve the goals of this plan and to implement the projects identified in this plan. There are funding sources available at the local, state and federal levels for implementing a project. Some of these sources have been discussed in previous chapters, others will be identified in this chapter. The purpose of this chapter is to compare the costs of projects identified during the regional planning process to the anticipated funding.

Purpose of the Long-Range Transportation Plan

The Long-Range Transportation Plan (LRTP) serves as means for the Regional Planning Affiliation to examine the region's existing transportation system and determine their adequacy for the region's population and economy. The plan considers all modes of transportation and discusses existing conditions, usage and needs. It also provides local officials the opportunity to explore the region's transportation needs based on existing conditions and projected revenues. This process is conducted in coordination with area stakeholders; including the RPA Policy Board, Technical Committee, the regional economic development group and the solicitation of public comment to discuss the region's transportation needs. The LRTP may serve as a guide for local jurisdictions to base their project selection for the transportation project programming process. Due to limited financial resources, local agencies need to be able to prioritize projects that best address the needs of their jurisdiction.

This plan will be divided into nine chapters as follows:

- Chapter 1 - Introduction and Overview: gives an overview of the purpose of the Long-Range Transportation Plan, the development process and public participation process.
- Chapter 2 – Summary of Public Comment: provides a summary of the public comments received.
- Chapter 3 – Characteristics of the Region: provides an overview of the region's demographic, economic and commuting patterns.
- Chapter 4 – Roads, Highways and Bridges: focuses on roads and bridges, discusses existing conditions and identifies planned improvements, funding sources and discusses anticipated funding.
- Chapter 5 – Passenger Transportation Services: discusses public transportation services in the region including existing services and passenger transportation needs.
- Chapter 6 – Bicycle and Pedestrian Facilities: reviews area bicycle and pedestrian facilities, describes recent developments, discusses regional connections, existing and proposed facilities, funding sources and priorities.
- Chapter 7 – Rail, Air and Pipelines: discusses rail, air and pipelines. Provides an overview of the different rail lines and traffic density and rail crossing types. Reviews the level of service of airports and proposed improvements. Summarizes pipeline transportation in the region.
- Chapter 8 – Safety and Security: focuses on safety and security of the transportation system, including both state, regional and local levels. Provides an overview of planning efforts, reviews crash data and areas of safety concern.

- Chapter 9 – Environmental Mitigation: discusses the potential impacts of transportation projects on environment, strategies to avoid, minimize or mitigate the impacts.
- Chapter 10 – Financial Capacity: provides an overview of available funding sources, the history of STBG and TAP funds, future funding projections, identifies short-term fiscally constrained projects, discusses long-term projects and explains the RPA's project selection process.

Description of RPA 15 and stakeholders

Regional Planning Affiliation 15 (RPA 15) was formed in 1994 after the passage of the Intermodal Surface Transportation Efficiency Act when the Iowa Transportation Commission decided to make funding available to local governments through regional planning organizations. The RPA was established under the Area 15 Regional Planning Commission, which was the Council of Governments serving already serving the region.

The Area 15 RPC provides the staff for the RPA's planning activities, technical expertise is provided by the Technical Advisory Committee and decision-making authority rests with the Policy Board. The Technical Committee consists of people with expertise in engineering, public works, conservation, public transit or trails. The Policy Board is made up of local elected officials and is the governing body of the RPA. The board is responsible for making funding decisions and adopting planning documents including the LRTP.

The current membership of the Technical Advisory Committee and the Policy Board is as follows:

Technical Advisory Committee

Membership:
- Wapello County Engineer
- Ottumwa Transit Director
- 10-15 Transit Director
- Van Buren County Engineer
- Jefferson County Engineer
- Keokuk County Engineer
- City of Oskaloosa Engineer
- Mahaska County Engineer
- City of Ottumwa Public Works Director

- Jefferson County Conservation Director
- Mahaska County Conservation Director
- Wapello County Conservation Director
- Pathfinders RC&D Director
- City of Fairfield Engineer
- Van Buren County appointed representative for transportation alternatives

Policy Board

Membership:
- Mahaska County Supervisor
- Wapello County Supervisor
- Jefferson County Supervisor
- Van Buren County Supervisor
- Mayor of the City of Ottumwa
- City Administrator of the City of Oskaloosa
- Keokuk County Supervisor
- City Council member of the City of Sigourney
- Mayor of the City of Fairfield

In addition, there are other groups that function as forums for input and comment on transportation activities and needs in RPA 15. These groups are as follows:

Transit Advisory Group: The group provides input into the passenger transportation planning process on mobility problems affecting seniors, students, persons with disabilities or with no vehicle, and lower incomes. This group serves as an advisory capacity to the Policy Board.

Wapello County Trails Council: This committee provides a forum to discuss non-motorized transportation issues related to the City of Ottumwa and Wapello County.

Area 15 Regional Planning Commission: This organization serves as the designated Economic Development District Organization. It provides assistance to local governments in the areas of community development, economic development, transportation, housing, land use and natural resources. The RPC provides staff for the Regional Planning Affiliation.

Opportunity[2]: This group coordinates economic development in Southeast Iowa and works to market the region to new and expanding businesses.

Additional stakeholders and resources in the development of the LRTP include:

- Neighboring Regional Planning Affiliations: RPAs 6, 10, 11, 16 and 17
- Iowa Department of Transportation
- Iowa Department of Natural Resources
- Iowa Natural Heritage Foundation
- Pathfinders Resource Conservation and Development
- Airports in the region: Fairfield, Keosauqua, Oskaloosa, Ottumwa and the new South-Central Regional Airport
- Railroads running through the region: Burlington Northern Santa Fe, Canadian Pacific, Union Pacific and Burlington Junction Railway
- Member cities and counties
- residents

Plans reviewed
RPA 6 – Region 6 Planning Commission 2014 Long-Range Transportation Plan
RPA 10 - ECICOG CRDS 2040 (2014 Long-Range Transportation Plan)
RPA 11 CIRTPA Horizon Year 2034 Long-Range Transportation Plan
RPA 16 SEIRPC 2018 Transportation and Development Plan
RPA 17 Chariton Valley Planning 2017 Long-Range Transportation Plan
Iowa Department of Transportation Iowa in Motion 2045 Iowa State Rail Plan – 2017 Iowa Strategic Highway Safety Plan - 2019
Area 15 Regional Planning Commission 2017 Comprehensive Economic Development Strategy

Timeline of Plan Development

May 2018: Reviewed other RPA websites for recent examples of LRTPs. Selected RPA 7, 9, 13, and 14 as possible examples. Reviewed and downloaded Iowa DOT guidance. Selected modal structure for RPA outline.

July 2018: Collected GIS data for region on pavement condition, federal functional classification, crashes, and traffic volume.

August 2018: Developed outline and timeline for LRTP. Identified resource agencies for consultation.

September 2018: Collected demographic information: housing ownership, travel time and distance to work traveled, mode of travel to work. Also collected bridge conditions and planned improvements beyond what is programmed in TIP.

October 2018: Collected information on railroads, airports and pipelines.

Discussed future projects, short and long term and safety, with the Technical Advisory Committee.

October – November 2018: Developed Chapter 3 Overview of Region (demographics, economic conditions and commuting) and Chapter 5 Passenger Transportation.

November – December 2018: Developed Chapter 4 Roads and Highways and Chapter 6 Trails.

December 2018: Review Iowa Strategic Highway Safety Plan and Top 200 Safety Improvement Candidate Location List.

December 2018 – January 2019: Developed Chapter 7 Rail, Air and Pipelines.

January 2019: Reviewed Environmental Strategies and resources.

February 2019: Developed Chapter 8 Safety and Security and Chapter 9 Environmental Mitigation.

March 2019: Developed Chapter 10 Financial Capacity.

Discussed strengths and weaknesses of the regions transportation system and goals for the Long-Range Plan with the Policy Board.

April 2019: Developed Chapter 1 Introduction and Overview.

April – May 2019: Completed revisions to chapters 3, 4, 5, 6, 7, 8, 9 and 10.

May - June 2019: Public review and comment.

June 2019. Adoption by the RPA.

Goals of the Long-Range Plan

The goals of the Long-Range Transportation Plan were developed through a review of the previous LRTP, the needs of the region and consultation with the Technical Advisory Committee and Policy Board. These goals will steer the prioritization of projects and the investment of public funds in the region. Applications for Surface Transportation Block Grant/SWAP or Transportation Alternative Program funds should address one or more of the goals of this plan and/or should be identified as a project within this document. STBG/SWAP and TAP projects will be scored according to how well they address the goals of the LRTP.

1. Provide a transportation system for users that is safe and dependable for the movement of people and goods by encouraging projects that:
   a. Maintain or improve the condition of existing roads.
   b. Maintain or improve bridges so that they are safe for their level of use.

c. Improve safety, especially in areas with a history of crashes.
d. Reduce vehicle, freight, transit, rail, bicycle and pedestrian conflicts.
e. Improve travel times or level of service.
f. Improve connectivity between cities or regions.
g. Maintain or improve passenger transportation services.
h. Preserve the integrity of the 4-lane highway.

2. Promote an efficient means of meeting the transportation needs of the region by:
   a. Maximizing the useful life of existing transportation infrastructure.
   b. Discouraging projects with high costs and low use.
   c. Identifying federal, state and local sources to assist with the funding of projects.
   d. Encouraging cooperation between governments on projects that benefit more than one agency.

3. Encourage economic development and improve quality of life in the region by:
   a. Giving consideration to and promoting transportation projects that create or retain jobs in the region.
   b. Developing connections between existing developments, new developments and/or redevelopments.
   c. Promoting the use of transit, bicycling and walking as transportation and the creation of infrastructure to support their use.

Public Participation Process for Plan

The public involvement process for the Long-Range Plan was based on the RPA's Public Participation Plan, which was last updated in 2017. This plan describes the federal and state requirements the Regional Planning Affiliation follows ensure participation by all interested parties. It also describes the methods the RPA uses for ongoing outreach, engaging marginalized and/or disadvantaged populations and for the development of major transportation plans.

The 2017 RPA 15 Public Participation Plan set the requirements for public involvement opportunities for the LRTP and guided the public input process. Public input actions required included the following:

- Public engagement:
  o Presented at RPA 15 TAC and Policy Board meetings.
  o Posted on Area 15 RPC website and available in the planning commission's office during normal business hours.
  o A minimum of one public input session will be held.
  o Presentations also made to interested organizations.

- Public Notice:
  - Legal notice published for public comment and hearing in the newspaper of widest circulation.
  - Notice may also be advertised through local media sources, RPC newsletter, posted on RPC Facebook page, sent to member cities, member counties, private transportation organizations and organizations serving disadvantaged populations.

- Comment period and adoption:
  - The public will have at least a 30-day comment period prior to adoption to submit comments by mail, e-mail, phone or in person during normal business hours or at the designated public hearing.
  - Following the 30-day comment period the RPA will adopt a final version of the LRTP including a summary of the comments received by resolution at a Policy Board meeting.

Chapter 2: Public Involvement

The development process for the Long-Range Transportation Plan provided continuous opportunity for involvement and feedback from the stakeholders. To manage an inclusive process the RPA's Public Participation Plan was used as a guide. A list of the stakeholders and a description of the public participation process can be found in Chapter 1: Introduction and Overview.

This Chapter provides a description of stakeholder involvement during plan development and during the public comment period. It also provides a summary of comments received during the comment period.

Stakeholder Involvement During Plan Development

The development of the long-range plan was discussed at regular Technical Advisory Committee and Policy Board meetings. Discussion topics at these meetings included: status reports on the plan process, determination of goals and objectives, identification of short- and long-term projects and discussion of areas of safety concern. Draft chapters were also sent to committee and board members for review and comment as they were developed.

The Iowa Department of Transportation Systems Planning Bureau Statewide Planning Coordinator and the District 5 Planner were sent chapters upon their completion for review and comment. Other stakeholders including; railroads, airport managers and trail organizations were notified when the relevant chapter was complete and provided an opportunity to comment.

Stakeholder Involvement During the Public Comment Period

A thirty-day public comment period was provided for review and comment on the Long-range plan. Notice of this was given in the newspaper, on the Area 15 Regional Planning Commission Facebook page, in the newsletter, and in e-mails sent direct to the stakeholders. Opportunity for comment was provided through e-mail, phone, a public input session and an online survey. A summary of the questions from the survey can be found in Appendix B.

Comments received were generally by e-mail or phone, there were no attendees to the public input session nor were any comments received through the online survey. It is

believed that the lack of input during the comment period is due to two reasons. One is many of the stakeholders had the opportunity and provided comment during plan development. The other is a general apathy to providing feedback unless something directly impacts us, our property or ability to use it. The RPA will use the experience from this plan to assist in the next evaluation of the Public Participation Plan.

Public Comments Received

Thank you for putting OEDC's Rail Port Project in the document. Much appreciated.

This is great. FYI: We have now added another section of trail (chapter six).
•   connected trail section into University Park.
•   added native wildflower planting along trail.

Why is the NW Bypass project of Oskaloosa on page 42 (Figure 4.10) shown as not programmed? It is our understanding that the project should be in the DOT Five Year Program.

Response: Project was shown as not programmed as it was not in the approved DOT 2019-2023 Five Year Program it is in the draft 2020-2024 Program which had not yet been approved by the DOT commission. On June 11th, 2019 the commission approved the 2020-2024 Program and Figure 4.10 was updated, including showing the NW Bypass as programmed.

Figure 3.1: 2017 Population Estimates	
Jefferson County	**18,422**
Batavia	559
Fairfield	10,420
Libertyville	345
Lockridge	295
Vedic City	1,305
Packwood	222
Pleasant Plain	103
Keokuk County	**10,153**
Delta	316
Gibson	60
Harper	109
Hayesville	49
Hedrick	744
Keota	955
Keswick	238
Kinross	71
Martinsburg	107
Ollie	208
Richland	565
Sigourney	2,002
South English	205
Thornburg	61
Webster	70
What Cheer	621
Mahaska County	**22,235**
Barnes City	170
Beacon	485
Fremont	727
Keomah Village	84
Leighton	159
New Sharon	1,292
Oskaloosa	11,546
Rose Hill	165
University Park	475
Van Buren County	**7,157**
Birmingham	426
Bonaparte	411
Cantril	210
Farmington	628
Keosauqua	923
Milton	402
Stockport	282
Wapello County	**35,044**
Agency	636
Blakesburg	288
Chillicothe	98
Eddyville	1,008
Eldon	915
Kirkville	173
Ottumwa	24,454

Source: 2017 American Community Survey

Chapter 3: Population of RPA 15 and Comparison to Iowa

Estimates for 2017 place the population of the Regional Planning Affiliation 15 at 93,011, which is a slight increase of 81 people from the region's 2010 population. This is the continuation of a long-term trend of regional population decreases and is part of a larger shift in population from rural areas to suburban and urban areas. Within the RPA, Keokuk, Mahaska, Van Buren, and Wapello counties experienced minor population decreases while Jefferson County experienced a modest population increase. However, overall trends from the past 50 years show an overall decrease in population in the region.

The region's decreasing population, if it continues, will reduce the revenues available for maintaining and making improvements to the transportation system. A decline in the population may result in the decrease in the tax revenue collected. Population is also a factor used by the federal and state governments to determine how much funding is allocated to the region and governments within it, and population decreases will result in a reduction of allocations for transportation activities.
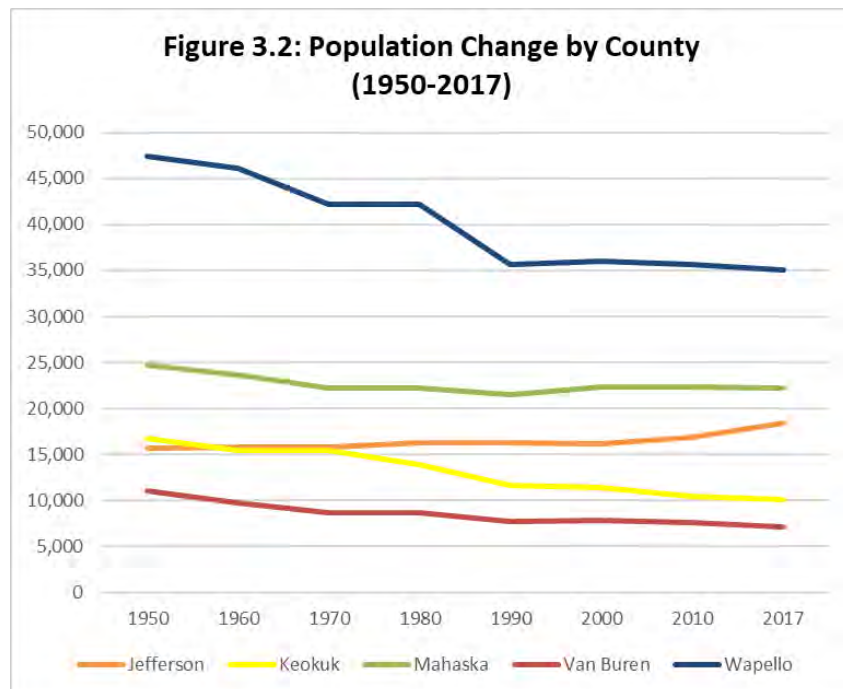
Source: U.S. Census Bureau (2010 Census), 2017 American Community Survey

The distribution of population between rural areas and cities varies by county, from 46% of Van Buren County's population living in cities to 79% percent of Wapello County's population living in cities. A majority of the city populations live in urban areas located in three counties: Jefferson, Mahaska, and Wapello counties. An urban area consists of densely developed territory that has at least 5,000 people but fewer than 50,000 people. In RPA 15, there are three urban areas—Fairfield, Oskaloosa, and Ottumwa (Map 3.1).

Figure 3.3: 2017 Population Ages
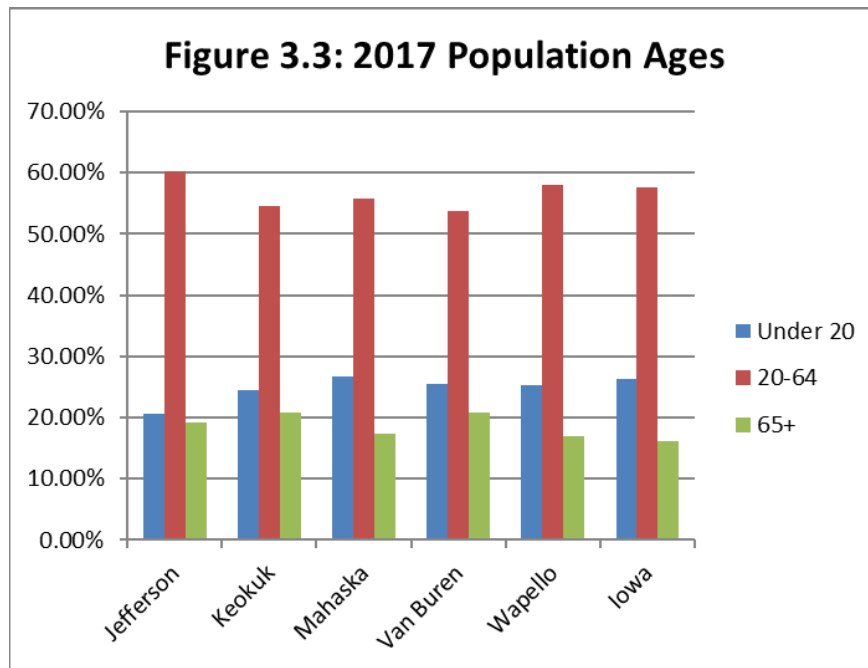
Source: 2016 American Community Survey

As younger populations continue to move to urban areas, the age distribution of the population in the region continues to skew older than the State of Iowa's average.

Approximately 58% of the region's population is between the ages of twenty and sixty-four, 24% is under the age of twenty, and 18% is sixty-five years and older.

Compared to 2010, the median age of the population within the region is older, the average median age within the five counties has increased by one year. Though the region's population is projected to be steady over through 2023, the same projections show a continued increase in populations over the age of 60, and a decrease of populations under the age of 24 as shown in Figure 3.5.

Figured 3.4: Median Age	
Jefferson County	40.9
Keokuk County	44
Mahaska County	39.7
Van Buren County	44
Wapello County	39.5
State of Iowa	38.1

Source: 2017 American Community Survey

As the population is aging, larger signs, more visible pavement markings, and more advanced warnings and additional safety measures will become necessary to keep a growing number of older drivers safe. For those that no longer drive, they will rely on public transportation services. This will increase the demand for public transit to provide trips both within and to locations outside the region for medical, entertainment, and shopping.

Figure 3.5: Population by Age Cohort

Age Cohort	2010 Population	2023 Population	Change	% Change	2010 % of Cohort
Under 5 years	5,710	5,686	-24	0%	6.14%
5 to 9 years	5,737	5,568	-169	-3%	6.17%
10 to 14 years	5,721	5,460	-261	-5%	6.15%
15 to 19 years	6,175	5,513	-662	-11%	6.64%
20 to 24 years	6,147	5,779	-368	-6%	6.61%
25 to 29 years	5,625	5,914	289	5%	6.05%
30 to 34 years	5,332	6,055	723	14%	5.73%
35 to 39 years	5,077	5,435	358	7%	5.46%
40 to 44 years	5,290	5,442	152	3%	5.69%
45 to 49 years	6,370	4,931	-1,439	-23%	6.85%
50 to 54 years	7,086	5,134	-1,952	-28%	7.62%
55 to 59 years	7,193	5,235	-1,958	-27%	7.74%
60 to 64 years	5,996	6,380	384	6%	6.45%
65 to 69 years	4,248	6,464	2,216	52%	4.57%
70 to 74 years	3,370	5,624	2,254	67%	3.62%
75 to 79 years	2,876	3,723	847	29%	3.09%
80 to 84 years	2,389	2,296	-93	-4%	2.57%
85 years and over	2,645	2,395	-250	-9%	2.84%
Total	92,990	93,035	45	0%	100.00%

Source: Emsi 2018.4

Though populations have seen decreases in previous decades, influxes of new residents into the region have helped to stabilize the population. Diversity in the region continues to be relatively low, but these new communities in Jefferson and Wapello Counties have increased minority representation (Map 3.2).

Figure 3.6: Percent Race by County

	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race	Two or More Races
Jefferson County	83.20%	5.90%	0%	5.20%	0%	2%	3.70%
Keokuk County	98.10%	0.10%	0.10%	0.40%	0.10%	0.10%	1.00%
Mahaska County	95.30%	1.50%	0.30%	1.30%	0.10%	0.40%	1.10%
Van Buren County	97.90%	0.60%	0.10%	0.10%	0%	0%	1.20%
Wapello County	88.10%	3.00%	0.10%	0.90%	0.30%	5.80%	1.70%

Source: US Census Bureau ACS 2013-2017

In terms of educational attainment, approximately 90% of the people living in the region have a high school diploma or higher degree—nearly equal to the percentage for the State of Iowa. The percentage of people living in the five counties who have a bachelor's degree or higher is approximately 20%, which is seven percent less than the state average. This creates an obstacle for the region to attract higher income jobs and limits access of the region's population to these jobs in areas such as advanced manufacturing.
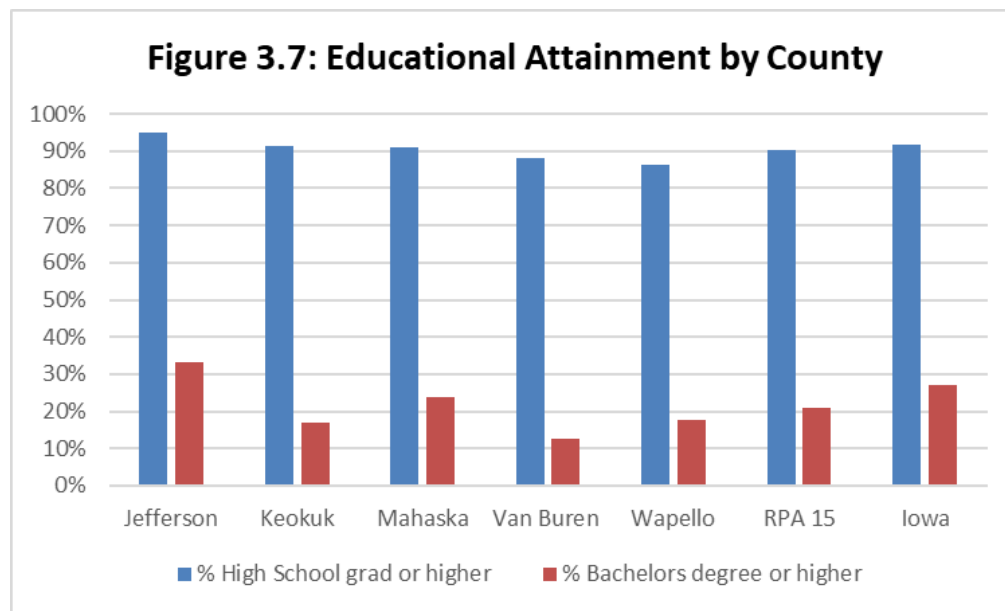
Source: 2017 American Community Survey

The per capita income level of the region is below that of the state and the unemployment rate is higher (Map 3.3). The average per capita income of RPA 15 is $25,642, which is $4,439 below the State of Iowa. Per capita incomes and unemployment rates vary widely by county within the region. Within RPA 15, per capita income varies between $23,413 in Wapello County to $26,638 in Keokuk County. Unemployment rates also vary within the region, from a low of 2.4% in Mahaska County to a high of 3.5% in Wapello County. The region's unemployment rate is slightly above the state average of 2.4%

The median household income for the region is significantly below the state level while housing costs are approximately in line with the rest of the state (Map 3.4). The median household income within RPA 15 is $45,602, which is $10,969 below the State of Iowa. Income levels in each of the five counties are also below the State, with the lowest median household income level being $43,329 in Wapello County. Housing costs are marginally lower in the region with the cost of mortgages averaging $1,028 in the region compared to $1,202 for Iowa and rent averaging $612 in the five counties while it is an average of $740 within the state.

Housing is a major factor in the economic climate of the region. The age of the region's housing stock is of concern as it overwhelmingly consists of units built before 1940. The average age of the housing stock suggests issues of maintenance, condition, and energy efficiency of these homes. In addition, many of these older homes are used for rental properties in the region, which often means these units face further deferred maintenance.

Also of note is the region's low housing vacancy rates, which suggests a lack of available housing stock, particularly in Keokuk, Mahaska, Van Buren, and Wapello Counties. Many communities are also experiencing a lack in quality rental housing as well, most of note Jefferson and Keokuk Counties.

Figure 3.8: Housing Statistics by County

	Percentage Owner-Occupied Housing	Homeowner Vacancy Rate	Renter-Occupied Housing	Rental Vacancy Rate
Jefferson County	67.30%	0.10%	32.70%	3.40%
Keokuk county	77.00%	1.80%	23.00%	3.80%
Mahaska County	70.50%	1.60%	29.50%	7.40%
Van Buren County	83.90%	1.70%	16.10%	13.30%
Wapello County	71.70%	1.20%	28.30%	12.60%
Source: US Census Bureau ACS 2013-2017				

Traditionally, home values have remained inexpensive in comparison with other areas of the country, leading to higher-than-average rates of home ownership. However, rental rates remain quite high compared to income, especially in Wapello County, where over 40 percent of those renting spend over 35 percent of their monthly income on housing.

Figure 3.9: GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI)
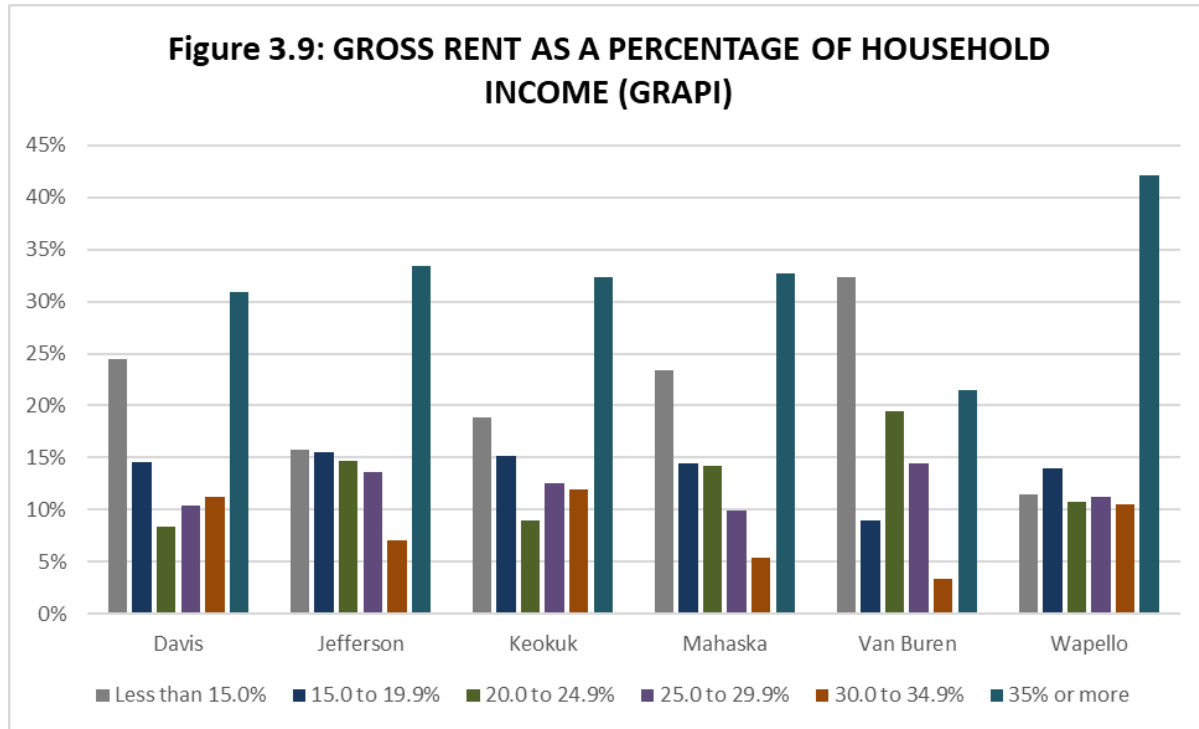
Source: 2017 American Community Survey

Figure 3.10: Limited English Proficiency in the Region		
	Population who speaks English less than very well	Percentage %
Jefferson County	1,042	6.1
Keokuk County	46	0.5
Mahaska County	268	1.3
Van Buren County	158	2.3
Wapello County	1,864	5.2

Source: US Census Bureau ACS 2013-2017

Jefferson and Wapello counties have over 5% of their population that identify as "speaking English less than very well". In Jefferson County, the largest portion of people who responded that they "speak English less than very well" identified as speaking a European language at home (Map 3.5).

This percentage is the combination of several European languages and includes French, German, and other West Germanic languages. In Wapello County, a majority of the people who responded that they "speak English less than very well" identified as speaking Spanish at home.

Figure 3.11: Limited English Proficiency by School District (2017-18)		
	Number of LEP Students	Percentage
Pella	20	0.9
Twin Cedars	0	0
North Mahaska	0	0
Oskaloosa	25	1.1
Ottumwa	674	15.7
Tri-County	0	0
English Valleys	0	0
Sigourney	0	0
Keota	0	0
Eddyville-Blakesburg-Fremont	5	0.5
Pekin	0	0
Cardinal	0	0
Fairfield	47	2.9
Washington	106	6.4
Van Buren	1	0.2
Harmony	0	0
Central Lee	0	0
Source: Iowa Dept of Education		

There are 873 Limited English Proficient (LEP) students in the seventeen school districts that serve RPA 15. The districts with the largest LEP population were the ones that served larger cities, the districts that served more rural areas had fewer if any LEP students. The Ottumwa School District, which serves the city and Wapello County, has the most LEP students. This information, along with the general LEP population information, indicates that the largest LEP population within the region is in or near Ottumwa.

In summary, the region is experiencing a steadily decreasing population. The median age within the region is increasing and the percentage of young people is decreasing. Educational attainment within the region is below that of the state. Income levels in the region are also lower, and unemployment is higher than the state average.

The decreasing population, aging population, and low income all have impacts on the transportation system. If the population decrease continues and income levels remain low, it will have a detrimental impact on future funding for transportation improvements within the region. These two factors will lead to a decreasing tax base, reducing local revenues. Federal and state funds that are allocated based on population will also be negatively affected. A growing aging population will require better visibility of roadway pavement markings and signs, more advanced warnings, and additional safety measures to accommodate older drivers, or additional public transportation services to provide trips to those who don't drive.

Employers and Jobs of RPA 15

The largest employment industry in the region is education and health, accounting for 24% of total employment. This is followed by manufacturing (22%), and retail trade (11%). There are also several large employers located just outside the region in Eddyville (Monroe County) at the Iowa Bioprocessing Complex which includes Cargill, Ajinomoto, Ajinomoto Heartland, Wacker, and the Iowa Bioprocessing Training Center. A number of residents from the region work at these facilities, and a considerable number of region residents travel between cities for employment.

Figure 3.12: Employment by Industry

Legend:
- Natural Resources
- Construction
- Manufacturing
- Wholesale trade
- Retail trade
- Transportation
- Information
- Finance and Insurance
- Professional
- Education and Health
- Entertainment and Rec
- Other services
- Public Administration
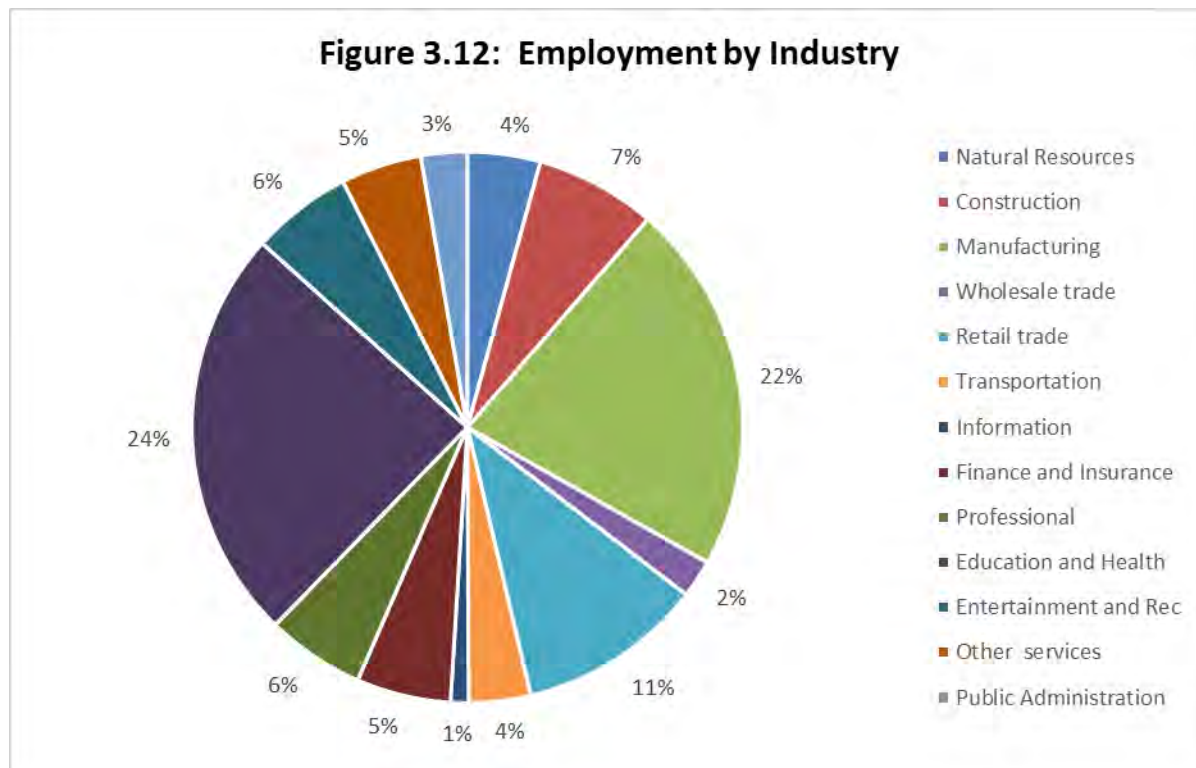
Source: 2017 American Community Survey

A majority of the region's largest employers are located around the three largest cities—Fairfield, Oskaloosa, and Ottumwa (Map 3.6, 3.7). As shown on the map, the city with the largest number of large employers is Ottumwa, followed by Oskaloosa and Fairfield. There are also smaller clusters of employers in Eddyville (Iowa Bioprocessing Center) and Keosauqua.

Employment across the region had a significant downturn post-recession, but saw a 5% growth over the past five years. Employment is projected to remain steady over the course of this planning period.

Figure 3.13: Regional Employment Rates, 2001-2023

5% Past Growth (2013 - 2018)   3% Projected Growth (2018 - 2023)
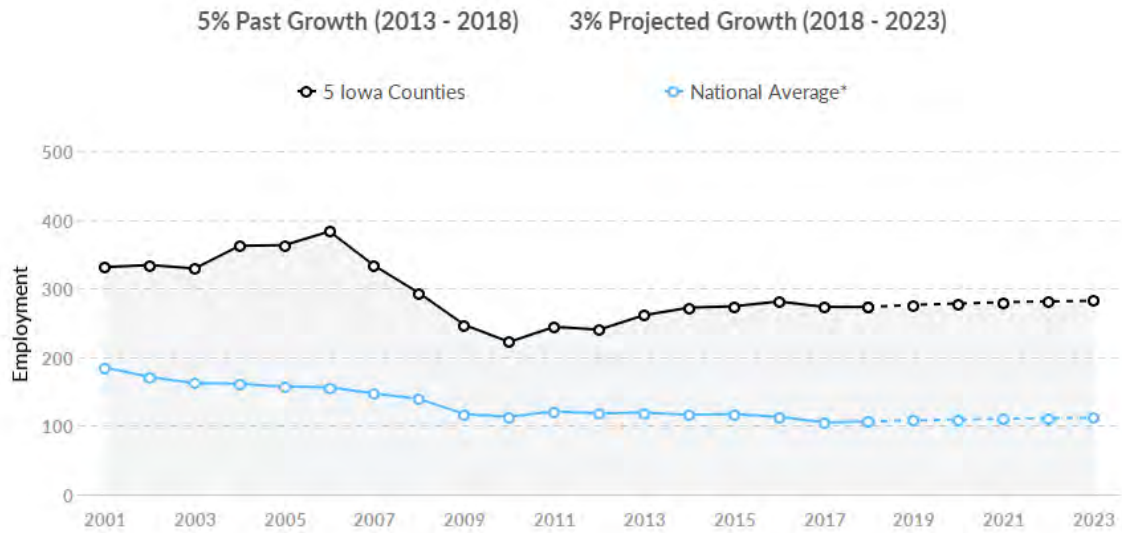
Source: Emsi 2018.4

The Transportation Network in RPA 15

The transportation network in RPA 15 is made up of roads and bridges, public transit, rail, aviation, and bicycle and pedestrian trails. Over three-fourths of the residents of the region drive on the road alone in an automobile and another 10% carpool to work. This shows a heavy reliance on the road network for transportation.

Figure 3.14: Method of travel to work

- Drove Alone — 79%
- Carpooled — 10%
- Public Transit — 0%
- Walked — 3%
- Other — 2%
- Worked from Home — 6%

Figure 3.15: Average travel time to work

County	minutes
Keokuk County	23.9
Van Buren County	22.3
State of Iowa	18.9
Mahaska County	18.3
Wapello County	18.1
Oskaloosa	17.3
Ottumwa	16.7
Jefferson County	14.8
Fairfield	10.1
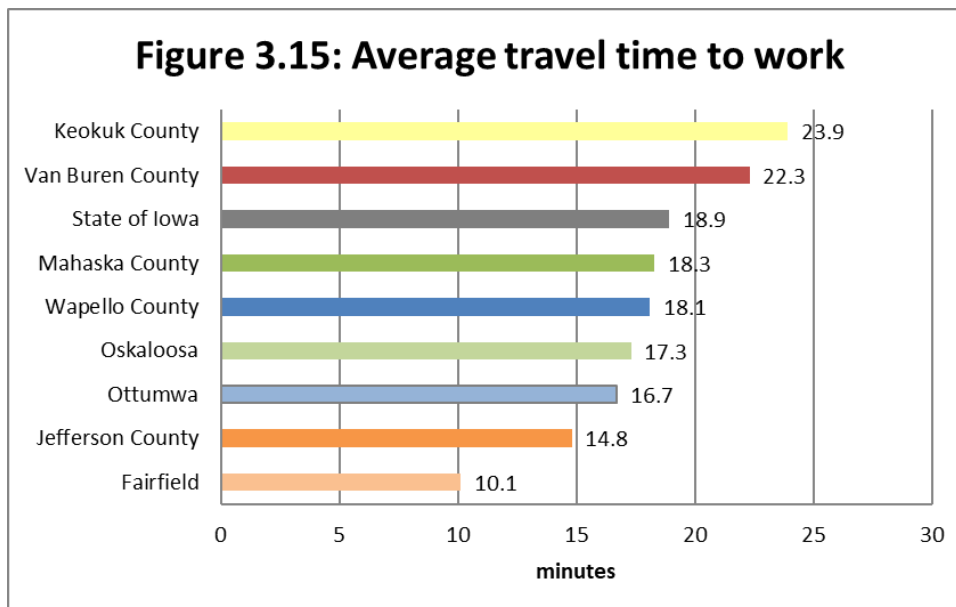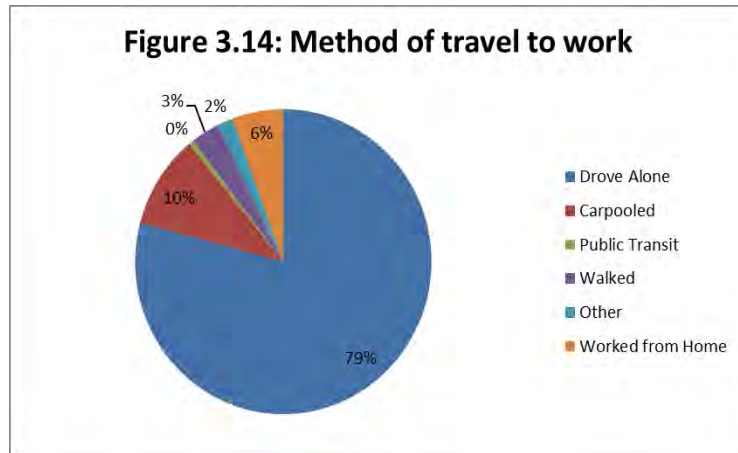
The average travel time to work in the region is over 22 minutes which is close, but higher, than the State of Iowa's average. Within the region there is variation from only 10 minutes within the City of Fairfield to nearly 24 minutes in Keokuk County.

As indicated by commuting times, the region has a significant amount of both inbound and outbound commuters for work purposes. Rural areas and city centers Oskaloosa and Sigourney see high numbers of outbound commuters, while Ottumwa, Fairfield, and to a lesser extent, Keosauqua see high numbers of inbound commuters. However, there is a significant amount of travelling between cities as many households have family members working in different cities.

Figure 3.16: Regional Inbound and Outbound Commuting Rates

ZIP	Name	2018 Employment
52501	Ottumwa, IA (in Wapello cour	181
52556	Fairfield, IA (in Jefferson coun	33
52577	Oskaloosa, IA (in Mahaska col	26
50207	New Sharon, IA (in Mahaska c	<10
52565	Keosauqua, IA (in Van Buren c	<10

ZIP	Name	2018 Workers
52501	Ottumwa, IA (in Wapello cour	138
52577	Oskaloosa, IA (in Mahaska col	45
52556	Fairfield, IA (in Jefferson coun	25
50207	New Sharon, IA (in Mahaska c	12
52553	Eddyville, IA (in Wapello coun	<10

Nearly all workers in the region have access to at least one vehicle in their household, with Van Buren County having the largest percentage of those without a vehicle at 5.1%.

Figure 3.17: Number of Cars Per Household				
	No Vehicle Available	1 Vehicle Available	2 Vehicles Available	3 or More Vehicles Available
Jefferson County	1.00%	23.20%	37.70%	38.20%
Keokuk County	0.60%	13.50%	39.50%	46.50%
Mahaska County	2.50%	17.20%	36.90%	43.40%
Van Buren County	5.10%	13.90%	35%	46.00%
Wapello County	2.40%	19.60%	40.70%	37.20%
Source: U.S. Census Bureau (2013-2017 ACS)				

Map 3.1: Distribution of Population

Mahaska County
Population: 22,235
Pct in county: 32
Pct in cities: 68

Keokuk County
Population: 10,153
Pct in county: 37
Pct in cities: 63

Jefferson County
Population: 18,422
Pct in county: 28
Pct in cities: 72

N

Wapello County
Population: 35,044
Pct in county: 21
Pct in cities: 79

Population

⬛	49 - 109
⬛	110 - 345
⬛	346 - 744
⬛	745 - 2,002
⬛	2,003 - 11,546
⬛	11,547 - 24,454

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT, US
Census Bureau 2017 ACS.
Date prepared: 04/24/2019

Van Buren County
Population: 7,157
Pct in county: 54
Pct in cities: 46

Map 3.2: Non-white Population by Census Tract

0 3 6   12   18   24
Miles

N
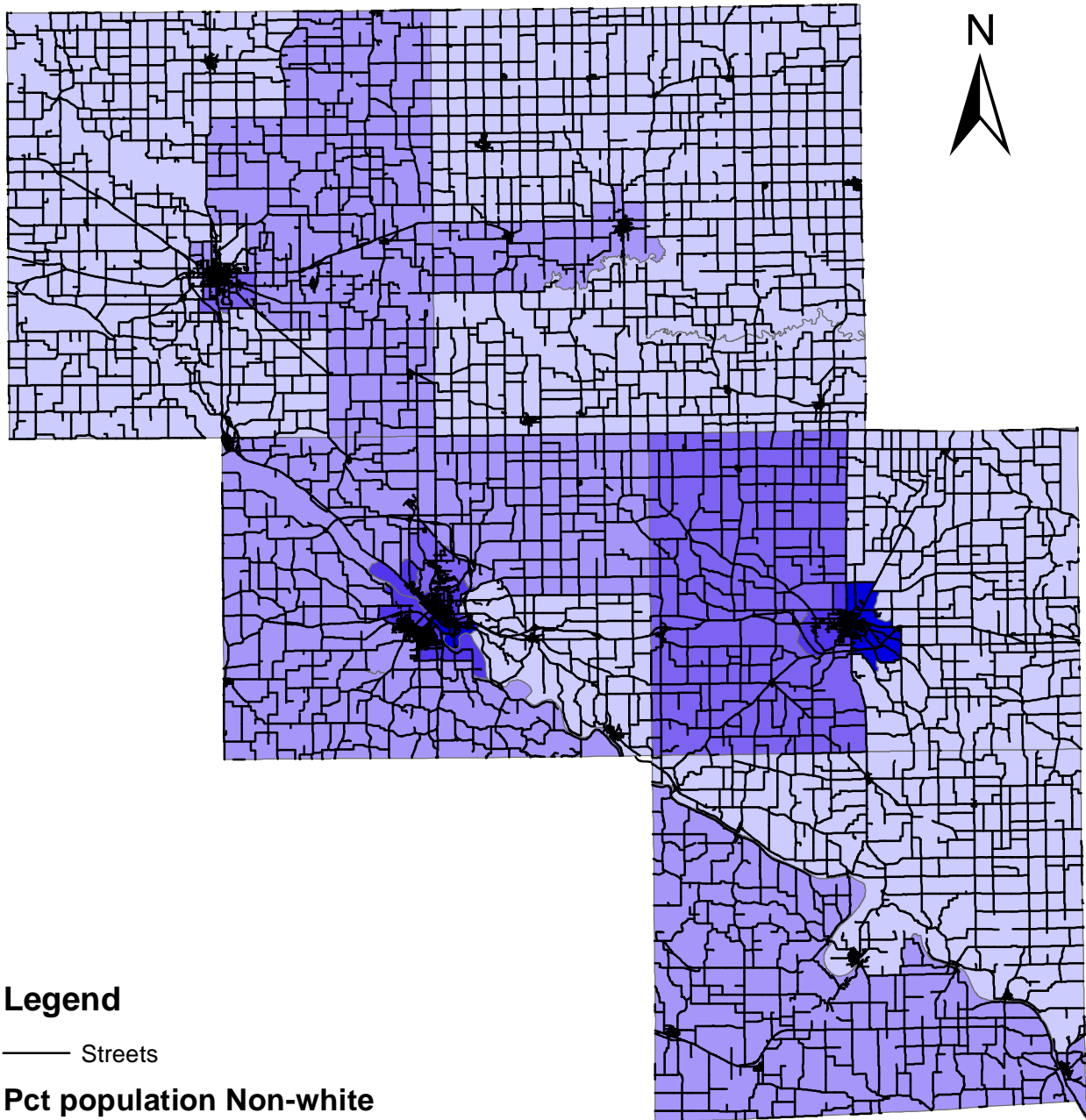
Legend

—— Streets

Pct population Non-white
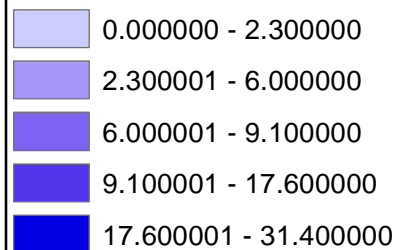
☐	0.000000 - 2.300000
☐	2.300001 - 6.000000
☐	6.000001 - 9.100000
☐	9.100001 - 17.600000
☐	17.600001 - 31.400000

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, US Census Bureau
2017 ACS and the Iowa DOT.

Map 3.3: Population, Income, and Unemployment by County and comparison of region to state

Areas with a Population over 5,000		
	Population	Per Capita Income
Fairfield	10,420	$22,329
Oskaloosa	11,546	$24,505
Ottumwa	24,454	$30,063

Mahaska County
Population: 22,235
Per Capita Income: $26,575
Unemployment Rate: 2.4

Keokuk County
Population: 10,153
Per Capita Income: $26,638
Unemployment Rate: 2.8

Wapello County
Population: 35,044
Per Capita Income: $23,413
Unemployment Rate: 3.5

Jefferson County
Population: 18,422
Per Capita Income: $26,630
Unemployment Rate: 2.5

Map prepared by the Area 15 Regional Planning Commission Sources: ESRI, Iowa DOT, Iowa Workforce Development, US Census Bureau 2017 ACS. Date prepared: 4/24/2019

Van Buren County
Population: 7,157
Per Capita Income: $24,952
Unemployment Rate: 2.7

Comparison of RPA 15 to State			
	Population	Per Capita Income	Unemployment Rate
RPA 15	93,011	$25,642	2.8
State of Iowa	3,118,102	$30,063	2.4

Map 3.4: Median Household Incomes, Housing Values, Housing Cost w/ Mortgage, and Rent

Areas with a Population over 5,000				
	Income	Housing Value	Cost w/ Mortgage	Rent
Fairfield	$36,781	$104,100	$1,092	$658
Oskaloosa	$56,719	$95,200	$956	$611
Ottumwa	$50,013	$73,400	$901	$639

Mahaska County
Household Income: $50,568
Housing Value: $110,100
Housing cost w/ Mortgage: $1,054
Rent: $613

Keokuk County
Household Income: $48,399
Housing Value: $83,700
Housing Cost w/ Mortgage: $1,030
Rent: $650

Wapello County
Household Income: $43,329
Housing Value: $81,000
Housing Cost w/ Mortgage: $938
Rent: $636

Jefferson County
Household Income: $44,516
Housing Value: $114,300
Housing Cost w/ Mortgage: $1,115
Rent: $661

Van Buren County
Household Income: $41,197
Housing Value: $82,700
Housing Cost w/ Mortgage: $1,004
Rent: $502

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, Iowa DOT, US Census Bureau 2017 ACS.
Date prepared: 04/24/2019

Comparison of RPA 15 to State				
	Income	Housing Value	Cost w/ Mortgage	Rent
RPA 15	$45,602	$94,360	$1,028	$612
State of Iowa	$56,570	$137,200	$1,202	$740

Map 3.5: Population that speaks English "Less than Very well" by Census Tract

0   3   6   12   18   24
                              Miles

N

Legend

—— Streets

Pct population Limited English Proficient

	0.000000 - 0.400000
	0.400001 - 1.600000
	1.600001 - 3.600000
	3.600001 - 4.100000
	4.100001 - 9.000000
	9.000001 - 15.100000

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, US Census Bureau 2017 ACS and the Iowa DOT.

Map 3.6: Leading Employers by County and Number of Employees

Mahaska Health Partnership - 489
Musco Lighting - 450
Clow Valve - 400
Oskaloosa Comm Schools - 355
Walmart - 240
William Penn University - 225
HyVee - 210
Cunningham - 105
Mahaska County - 90
Oskaloosa Food Products - 78

Pioneer Seed (Hedrick) - 108
Sigourney Comm School District - 88
Sinclair Tractor - 58
Bender Foundry - 43
Atwood Electric - 30
Durolast Roofing - 28
County Bank - 23
Ray-Man - 20

JBS - 2,482
Cargill - 953
Ottumwa Regional Health Center - 825
John Deere - 811
Otumwa Comm School District - 700
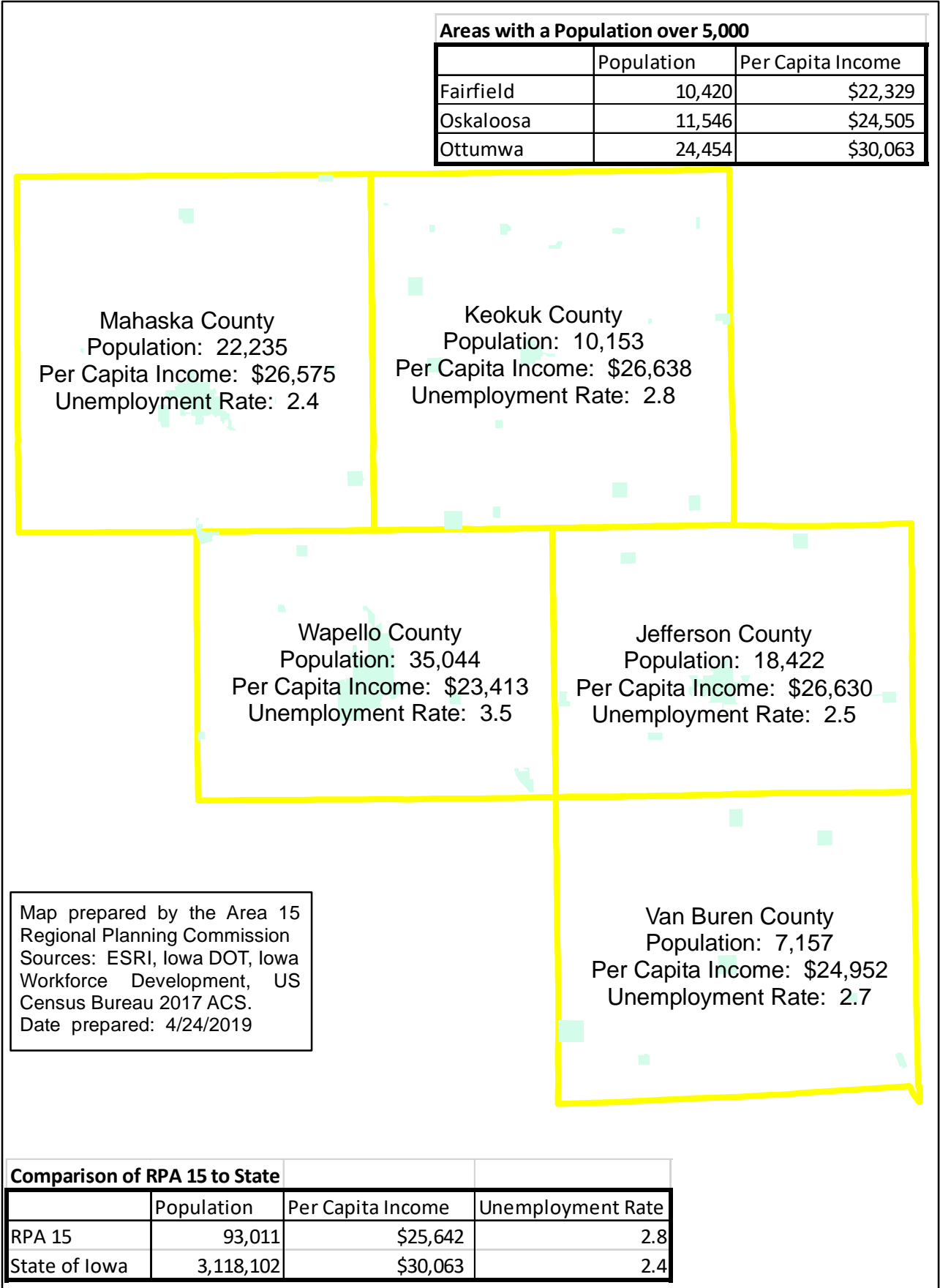Indian Hills Comm College - 420
City of Ottumwa - 265
Dr. Pepper/Snapple - 255
Ajinomoto - 215
HyVee - 188

Cambridge Investment Group - 850
Maharishi University of Management - 450
Fairfield Comm School Dist - 325
Jefferson County Health Center - 325
Dexter Foundry - 325
Hy-Vee - 300
Agri-Industrial Plastics - 225
Global ID Group - 125
TraFix Devices - 105
Creative Edge Master Shop - 50

Hill Phoenix - 404
Van Buren County Hospital - 185
Van Buren Comm Schools - 144
Riverside Plastics - 95
Van Buren County - 83
Keosauqua Health Care Center - 71
Barker Wire - 50
Mid-States Manufacturing - 40
Tigerhawk - 30

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Area 15 CEDS.
Date prepared: 04/24/2019

Map 3.7: Comparison of City Populations to Activity Centers

Mahaska County

Keokuk County

Barnes City

Gibson

New Sharon

Thornburg Keswick South English Kinross
Webster

163

What Cheer

Harper Keota

Leighton

Rose Hill

92

Delta Sigourney 92

Oskaloosa Keomah Village

Beacon University Park

Hayesville

Fremont

Ollie Richland *Jefferson County*

Hedrick Martinsburg

Eddyville

Pleasant Plain

Kirkville

Packwood

Chillicothe

163

Ottumwa

1

34

Agency Batavia Fairfield 34 163 Lockridge

Blakesburg

Libertyville

63

Eldon

Wapello County

Birmingham

Stockport

1

Keosauqua

Bonaparte

Legend

Milton

- 🟢 Hospitals
- 🔵 Doctors Offices
- 🟣 Dentists
- 🔴 Pharmacies
- 🟠 Grocery Stores
- 🩵 Big Box Stores
- 🟣 Nursing Homes
- ⚫ Mental Health
- 🔴 Auditoriums

Cantril Farmington

Van Buren County

Population

🟩	49 - 109
🟩	110 - 345
🟨	346 - 744
🟧	745 - 2,002
🟧	2,003 - 11,546
🟥	11,547 - 24,454

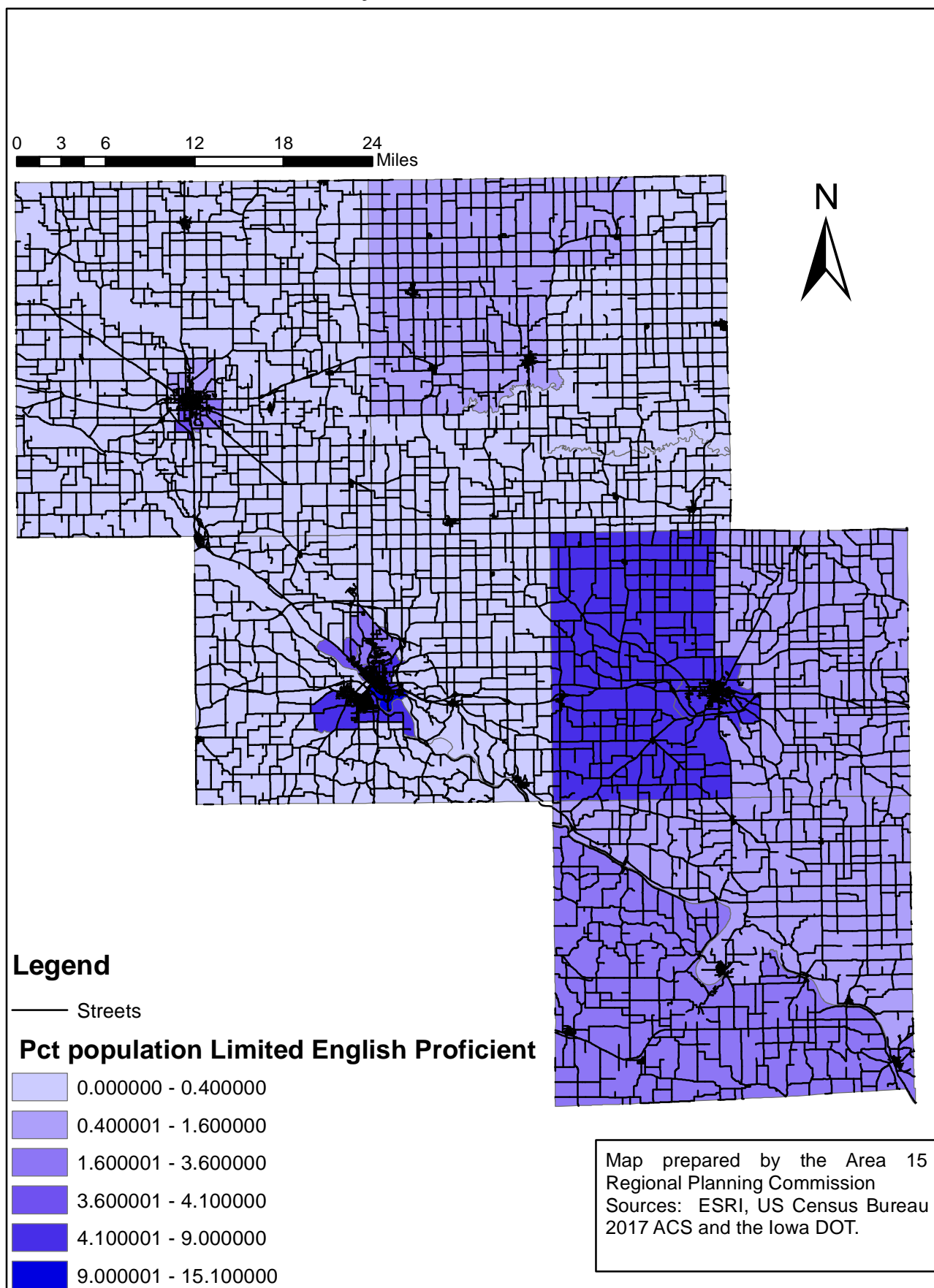Map prepared by the Area 15 Regional Planning Commission Sources: ESRI, Iowa DOT, US Census Bureau 2017 ACS.
Date prepared: 04/24/2019

Chapter 4: Existing Roadway System

Roads and make up the largest part of the region's transportation system and are the most used by residents. The movement of goods and people within the region requires the road network to allow for the from origin to destination even when other modes of transportation are involved. The road network consists of a hierarchy that allow for movement over long and short distances. At the top is the Primary road system that includes the highways, interstates and other state routes that make up the National Highway System, these roads allow for high speed movement over long distances with minimal interruption. In the middle is the secondary road system that includes both major and minor arterials and collectors, these roads connect the primary system to the local system and serve as major roads in larger cities. And at the bottom is the local road system that connect directly to most homes or businesses.

The road network within RPA 15 consists of over 5,000 miles of road, this includes 381 miles of primary roads and 4,098 of secondary roads. Of the region's total mileage, 1,503 miles or 30% are farm-to-market roads. Compared to the entire statewide road mileage, the region contains about 5% of the road mileage.

## Federal Functional Classification

Federal functional classification defines the road by the level of service it provides. An arterial provides a higher level of mobility and greater speed for longer distance travel. They do not provide direct access to every destination along the route. Collectors provide mid-level mobility and access and operate at lower speeds and for shorter distance travel than arterials. Collectors also serve to move traffic between arterials and local roads. Local roads provide the lowest level of mobility at the slowest speed but provide the most direct access to more destinations than any other classification.

Federal functional classification is used to determine eligibility for certain grant programs, such as the Surface Transportation Block Grant/SWAP program. It requires a road to have a classification of a minor collector or higher to be eligible for funding. Maps 4.1-4.5 show the federal functional classification for roads in each county and each urban area within the RPA. Figure 4.1 shows the mileage of roads within each county and urban area by classification level. It also shows the National Highway System Miles in each county and urban area. Figure 4.2 shows that the largest percentage of roads within the region are classified as local at 61%. Collectors, both major and minor make up the second largest share accounting for a combined 29% or the roads in the RPA.

Figure 4.1: Road Mileage by Federal Functional Classification - 2016							
	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	Total	NHS Miles
Jefferson	35	10	126	153	486	808	35
Keokuk	26	96	116	215	662	1,114	26
Mahaska	55	29	113	180	663	1,039	55
Van Buren		74	104	159	529	866	0
Wapello	37	13	134	120	451	755	37
Fairfield	4	17	8		48	78	4
Oskaloosa	18	12	13		80	123	18
Ottumwa	17	41	23		150	226	17
Total	192	291	638	826	3,069	5,009	192

Source: Iowa DOT Mileage Report by Federal Functional Classification - January 1st, 2016

https://iowadot.gov/systems_planning/planning-resource-guide#26634639-mileage-reports

Retreived: 4/30/19

Figure 4.2: Road Mileage by Federal Functional Classification - 2016
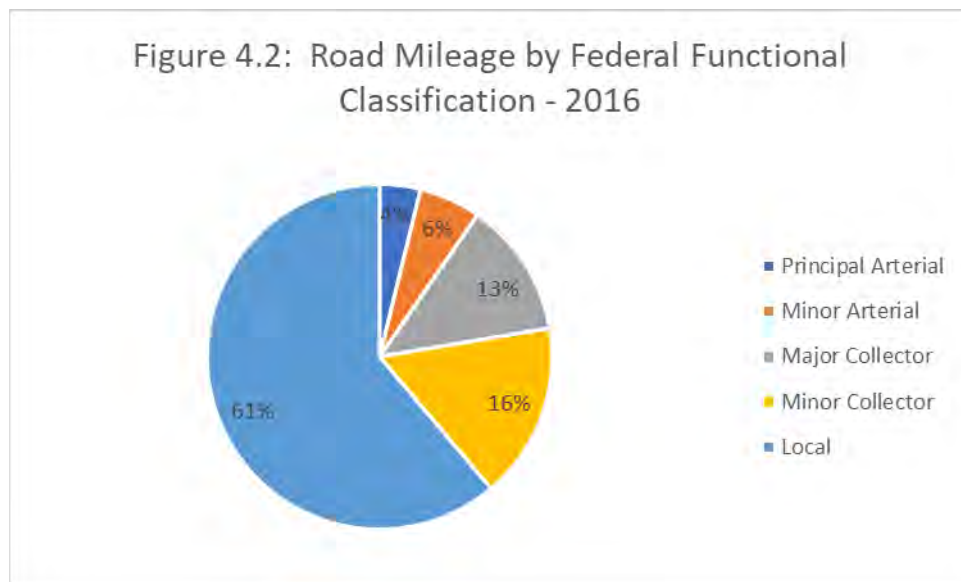
Traffic Volume

Use of the road network is determined by traffic volume, which is measured as Average Annual Daily Traffic or AADT. AADT represents average traffic volumes for a day over a given year. AADT is a useful measure because it gives engineers and planners a picture of traffic on a particular road segment. Areas with higher AADT are used by more vehicles and more often. This information can be used to determine areas that may experience increased wear, or need improvement to handle the existing/projected

traffic volume and maintain a level of service. AADT can also be used with crash information to determine segments and intersections that may have safety issues.

The Iowa DOT measures AADT on one quarter of the state's road system each year, measuring the entire state over a 4-year cycle and southeast Iowa was last counted in 2014. Counts are obtained through a combination of observed counts, automated recorders and estimates. For 2017 counts on the state system are expanded upon using the 2014 counts and a formula. Counts on the secondary system are from when the road was last counted.

Map 4.6 shows the 2017 AADT for RPA 15 and maps 4.7-4.11 shows the 2017 AADT for each of the counties and urban areas within the RPA. Figure 4.3 shows the roads with the highest traffic volumes in the region. A majority of the road are four lane and many with higher volumes can be found in urban areas. The road segment with the highest volume is IA 149 over the Des Moines river which has 23,000 vehicles per day. The road segment outside of an urban area with the highest traffic volume is IA 163 between Oskaloosa and Eddyville which has a traffic county of 12,500 vehicles per day.

Figure 4.3: Roads with the Highest Traffic Volume in the Region - 2017			
Road Segment	City/County	# of lanes	Traffic Volume
IA 149/ Wapello St Ext over DM River	Ottumwa	4	23,200
US 34 Venture Dr to IA 149	Ottumwa	4	18,300
IA 92 W of Market St	Oskaloosa	4	12,600
IA 163 S of Oskaloosa to Eddyville	Mahaska Co	4	12,500
IA 163 N of Oskaloosa	Mahaska Co	4	11,500
Burlington Ave W of Highway 1	Fairfield	3	11,400
IA 92 E of Market St	Oskaloosa	4	10,700
US 63 O Ave to 9th Ave	Oskaloosa	2, 3, 4	7,500
US 63 S of Ottumwa	Wapello Co	2	6,800
US 63 N of Oskaloosa	Mahaska Co	2	3,800
Source: Iowa Department of Transportation 2017 RAMS data			
http://public-iowadot.opendata.arcgis.com/datasets/rams-road-network			
Retrieved: 7/18/18			

An important subset of the AADT is the truck AADT, which shows the movement of freight through the region. Map 4.12 shows the truck AADT on roads within the region. Figure 4.4 lists the road segments with the highest truck volumes. The trucks counted on both map 4.12 and figure 4.4 include both single unit and combination truck classes. The segment with the highest truck traffic is IA 163 S of Oskaloosa to Eddyville with

1,997 trucks per day. Truck traffic volume can be used to determine areas that need capacity improvements to maintain travel speed and time, or safety improvements to prevent conflicts between smaller vehicles and the large trucks.

Figure 4.4: Roads with the Highest Truck Traffic Volume in the Region - 2017			
Road Segment	City/County	# of lanes	Truck Volume
IA 163 S of Oskaloosa to Eddyville	Mahaska Co	4	1,997
US 34 E of Ottumwa to Agency	Wapello Co	4	1,826
IA 163 N of Oskaloosa	Mahaska Co	4	1,728
IA 163 Ottumwa Bypass	Wapello Co	4	1,668
IA 163 E of Eddyville to Ottumwa	Wapello Co	4	1,534
US 34 W of Ottumwa	Wapello Co	2	625
US 63 N of Oskaloosa	Mahaska Co	2	614
US 63 S of Ottumwa	Wapello Co	2	574
IA 92 W of Oskaloosa	Mahaska Co	2	501
Source: Iowa Department of Transportation 2017 RAMS data			
http://public-iowadot.opendata.arcgis.com/datasets/rams-road-network			
Retreived: 7/18/18			

Pavement Conditions

The condition of a roadway's pavement is important, and a road's surface should be regularly inspected for wear, cracking and deterioration. Good pavement provides a better driving experience and is safer, while deteriorated pavement can lead to a poor driving experience, be unsafe and cause increased wear and damage to vehicles. The level of deterioration and the amount of cracks in a road is a factor in determining its priority for rehabilitation or reconstruction. It is the responsibility of the cities and counties to inspect and maintain the secondary roads under their jurisdiction while the primary roads are maintained by the Iowa DOT.

One tool that can assist cities and counties in determining the condition of their roads is the Iowa Pavement Management Program. This program inspects one half of the roads within the state each year and this data is available to the cities and counties at no cost. One method of rating the condition is Pavement Condition Index (PCI), which provides a score of a segments condition of zero to 100 with zero being very poor and 100 being excellent. Road segments rated using PCI are scored based on the number of cracks and patches compared to the length of the segment, segments with a higher number of cracks and patches to length have a lower score.

Maps 4.13-4.17 show the 2013 PCI ratings for the roads in each of the counties and urban areas, and maps 4.18-4.22 show the 2017 PCI ratings. Video logging of pavement conditions is also available through the IPMP and can be accessed online at: http://rams.iowadot.gov/pathweb/ A comparison of the 2013 to 2017 ratings show that while the conditions of individual road segments may have changed, the overall condition of roads within the region stayed constant. In 2013 the average rating of all the state highways in the region was 69, in 2017 the average for the state roads was 70. The average for all of the paved county roads and city streets within the region from 2013 was 51, in 2017 it was 49. State roads also had a higher average rating than county roads and city streets.

Bridge Conditions

There are also 928 bridges that are part of the region's road network. A majority of these bridges are located on secondary roads and are the responsibility of the county for inspection, maintenance and replacement. Bridges located on roads maintained by cities are the responsibility of that city and bridges on primary roads are maintained by the Iowa DOT. Bridges are inspected regularly to determine their ability to remain in service and continue to perform their role. One way to measure this is by scoring bridges on a sufficiency rating.

The bridge sufficiency rating system provides a standard means of evaluating a bridge's condition in several categories. These categories are: bridge structure, traffic volume, road and lane widths, approach geometry, clearances and importance of the bridge. The sufficiency rating gives an overall measure of the bridge's condition, it is also used to determine the bridge's eligibility for Surface Transportation Block Grant program Bridge funds. Bridges with a sufficiency rating of 80 or below are eligible for funding to be rehabilitated, bridges with a rating of 60 or below are eligible to be replaced.

The table below shows the sufficiency ratings for all of the bridges in the region. A majority of the bridges, over half have a rating of 81 or higher. There are 173 or 18% of the bridges that have a rating between 61 and 80, these bridges are eligible for funding for rehabilitation. And there are 318 bridges or 31% that have a rating below of 60 or below and are eligible for funding for replacement. Maps 4.7-4.11 show the locations of the bridges in each county and their sufficiency rating.

Figure 4.5: Bridge Sufficiency Ratings for the Region - 2018

Rating	Jefferson Co	Keokuk Co	Mahaska Co	Van Buren Co	Wapello Co	Total	Pct
81 -100	85	105	105	60	107	**462**	**48%**
61 - 80	19	48	40	31	35	**173**	**18%**
0 - 60	55	43	90	70	60	**318**	**33%**
Total	**159**	**196**	**235**	**161**	**202**	**953**	

Source: Iowa Department of Transportation 2018 Iowa Bridge Lines
http://data.iowadot.gov/datasets/bridges
Accessed: 10/11/18

Crashes

In 2018 there were a total of 1,254 crashes within the RPA. Over half of the crashes were multi-vehicle crashes and only eighteen involved pedestrians. A majority (70%) of the crashes resulted in property damage only. There were 180 crashes that resulted in an injury and nine crashes that were fatal. Figure 4.6 below shows the percentage of crashes by severity for the RPA. Crashes will be discussed in more detail, including locations and high crash areas, in Chapter 8: Safety and Security.

2018 Crash Summary

By Type:
Single Vehicle – 48.3%
Multiple Vehicle – 51.6%
Vehicle / Pedestrian – 18

By Severity:
Fatal – 10
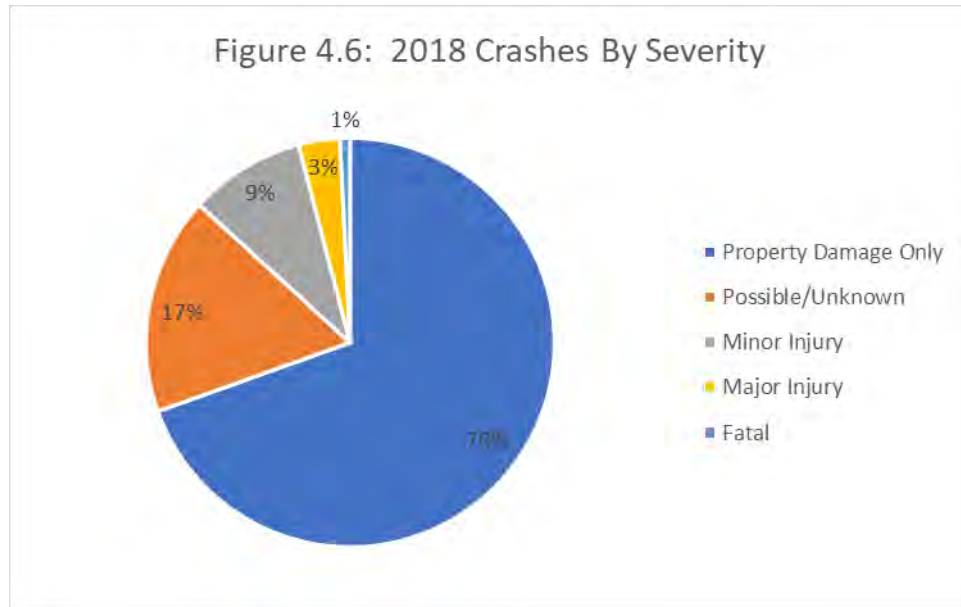Major Injury – 41
Minor Injury – 115
Possible Injury – 216
Property Damage Only - 872

Source: Iowa Crash Analysis Tool.
https://icat.iowadot.gov/ Accessed:
January 20th, 2019.

Figure 4.6: 2018 Crashes By Severity

- Property Damage Only
- Possible/Unknown
- Minor Injury
- Major Injury
- Fatal

Source: Iowa DOT, Iowa Crash Analysis Tool

Future Roadway Improvements

Future road improvements are planned for through coordinated efforts between the RPA and local cities and counties within the region. RPA staff guide the Technical Advisory Committee and Policy Board through the planning process to develop long-range planning documents such as this one that establish goals and objectives and also identify short and long-term projects. This process also selects projects for funding assistance and inclusion in the Statewide Transportation Improvement Program. Short-short term road and bridge projects were identified through discussions with the TAC and review of the FY19-22 STIP.   Long-term projects were identified through discussions with Technical Advisory Committee members.

Funding is necessary to implement the identified roadway improvements. There are a several of funding options available to cities and counties for funding road and bridge projects that come from local, state, and federal sources. Some funds, such as local taxes and franchise fees, may be used for both road and bridge projects, other transportation projects and non-transportation related purposes. Others, like the road use tax, farm-to-market fund, and transportation grants are more restricted in how the funding may be used. The Funding sources section and anticipated funding will discuss these sources.

Planned and Potential Improvements

Figure 4.7 identifies planned road and bridge projects within the region for the next five years. It includes information on the project's location, total cost, anticipated amount of grant aid, funding source of that aid, and the year it is programmed if it is. Map 4.23 shows the location of planned road and bridge projects within the region and identifies them by funding source. Figure 4.8 identifies potential road and bridge projects for beyond five years. These are projects that the cities and counties will be starting to develop in the next few years.

The needs of the state highway system within the region are identified in figure 4.9. These needs are identified in the State Long-Range Transportation Plan: Iowa In Motion 2045. The needs are divided into four categories: mobility and safety, freight, condition, bridge and stewardship. Mobility and Safety indicates a corridor where operational improvements can reduce traffic interruptions and the number of crashes. Corridors highlighted in the freight category have a bottleneck that hinders freight movement.   The condition category identifies corridors that are ranked in the bottom 25 percent of the Infrastructure Condition Evaluation, which uses a composite rating to evaluate the road's structure and service condition. Bridge identifies corridors that have bridge(s) have are in the lowest 5 percent for bridge condition index of the bridges on the primary system. The bridge section also identifies several major bridge projects that need to occur in the next couple of decades, one of which is in RPA 15, the US 63 Ottumwa viaduct.   The stewardship category identifies corridors targeted for routine pavement and bridge maintenance.

Figure 4.10 contains Iowa Department of Transportation District 5 projects for the region. These include both programmed and non-programmed projects, the non-programmed projects are the goals of the district.

Figure 4.7: Planned Road and Bridge Improvements within the Next Five Years

Project	Location	Cost	Aid	Funding Source	Programmed Year
IA 1/S Main widening from Fillmore to 200ft S of Libertyville Rd	Fairfield	$4,200,000	$240,000	STBG	2021 and 2022
Notes: also includes $320k TAP and $3.5m state					
IA 22 pavement rehab from IA 149 to Wellman	Keokuk Co	$2,760,000	$2,208,000	STBG	2019
IA 149 pavement rehab from IA 92 to IA 22 in Webster	Keokuk Co	$1,640,000	$1,312,000	STBG	2019
Bridge replacement on N 17th over Spring Creek	Oskaloosa	$1,160,000	$928,000	STBG-HBP	2019
Bridge replacement on 225th Ave over Middle Avery Creek	Wapello Co	$475,000	$380,000	STBG-HBP	2019
Bridge replacement on Grasstree Ave over Lick Creek	Jefferson Co	$570,000	$490,000	SWAP-HBP	2020
Bridge replacaement on 257th St	Jefferson Co	$500,000	$490,000	SWAP-HBP	2021
Bridge replacement on H43 over Big Cedar Creek	Jefferson Co	$1,150,000	$920,000	SWAP-HBP	2021
Bridge replacement on 148th St	Jefferson Co	$570,000	$456,000	SWAP-HBP	2022
Bridge replacement on IRIS Ave over Mtichell Creek	Jefferson Co	$480,000	$384,000	SWAP-HBP	2022
Pleasant Plain Rd HMA overlay from 167th to N Walnut Creek	Jefferson Co	$1,485,000	$570,000	STBG-SWAP	2020
W40 pavement rehab from 19t0h to 218th St	Jefferson Co	$700,000	$700,000	STBG-SWAP	2020
W40 pavement rehab from 150th to Washington Co line	Jefferson Co	$2,350,000	$220,000	STBG-SWAP	2021
Bridge replacement on 180th Ave over South Fork English River	Keokuk Co	$865,000	$692,000	STBG-SWAP	2019
Bridge replacement on 328th Ave over English River	Keokuk Co	$365,000	$365,000	SWAP-HBP	2020
Bridge replacement on 120th over English River	Keokuk Co	$70,000	$70,000	SWAP-HBP	2021
Bridge rehabilitation on 170th St	Keokuk Co	$80,000	$80,000	SWAP-HBP	2021
G29 paving from Mahaska Co line to IA 21	Keokuk Co	$1,500,000	$1,200,000	STBG-SWAP	2022
Bridge rehabilitation on V44 over English River	Keokuk Co	$400,000	$320,000	SWAP-HBP	2022
Bridge replacement on 100th St over Buckley Creek	Mahaska Co	$225,000	$180,000	SWAP-HBP	2019
Bridge replacement on 335th St over Cedar Creek	Mahaska Co	$700,000	$560,000	SWAP-HBP	2020
Bridge replacement on 110th St over Elk Creek	Mahaska Co	$700,000	$560,000	SWAP-HBP	2021
Bridge replacement on 160th St	Mahaska Co	$300,000	$240,000	SWAP-HBP	2021
Bridge replacement on T31	Mahaska Co	$150,000	$120,000	SWAP-HBP	2022
Grading paving widening on G71 from Galeston Ave to IA 163	Mahaska Co	$5,000,000	$2,750,000	STBG-SWAP	2019
Bridge replacement on J40 over Reeds Creek	Van Buren Co	$900,000	$900,000	SWAP-HBP	2019
Bridge replacement on 150th Rd over Holcomb Creek	Van Buren Co	$200,000	$200,000	SWAP-HBP	2020
Bridge replacement on 110th Rd over Lick Creek	Van Buren Co	$680,000	$680,000	SWAP-HBP	2020
Bridge replacement on 197th Rd over Wildcat Creek	Van Buren Co	$300,000	$300,000	SWAP-HBP	2021
Bridge replacement on Stone Ave	Van Buren Co	$300,000	$300,000	SWAP-HBP	2022
Bridge replacement on 235th St over Indian Creek	Van Buren Co	$375,000	$375,000	SWAP-HBP	2022
Bridge replacement on 200th Ave over South Avery Creek	Wapello Co	$500,000	$500,000	SWAP-HBP	2019
Bridge rehabilitation on Compentie Road over Cedar Creek	Wapello Co	$250,000	$250,000	SWAP-HBP	2019
Bridge replacement on 15th St over Brush Creek	Wapello Co	$500,000	$500,000	SWAP-HBP	2020
Bridge replacement on 180th Ave over Soap Creek	Wapello Co	$500,000	$500,000	SWAP-HBP	2021
Bridge replacement on Whiskey Ridge over Avery Creek	Wapello Co	$500,000	$500,000	SWAP-HBP	2022
4th Street HMA overlay from Broadway Ave to BNSF ROW	Fairfield	$447,700	$447,700	STBG-SWAP	2021
32nd Street HMA overlay from Jackpine Loop to Burlington Ave	Fairfield	$768,000	$768,000	STBG-SWAP	2021
Milner St grade and pave from Mary St to Burhhus St	Ottumwa	$2,036,885	$1,629,508	STBG-SWAP	2020
Mary Street PCC reconstruction from Ferry St to Shaul Ave	Ottumwa	$2,197,128	$2,055,354	STBG-SWAP	2023
US 63 grade and pave and bridge replace J12 to US 34	Ottumwa	$10,338,000	$8,271,000	NHPP	2019 and 2020
IA 1 bridge deck overlay over Walnut Creek	Jefferson Co	$517,000		PRF	2020
IA 1 bridge deck overlay over Walnut Creek	Jefferson Co	$330,000		PRF	2022
IA 1 grade and pave S of Libertyville Rd to Fillmore Av	Fairfield	$3,500,000		PRF	2022
IA 21 pavement widening Delta city limit to IA p2	Keokuk Co	$398,000		PRF	2019
IA 92 bridge deck overlay over Clear Creek	Keokuk Co	$338,000		PRF	2021
IA 78 bridge replacement over ICE RR	Keokuk Co	$3,000,000		PRF	2022
IA 92 grade and pave IA 21 and V33 intersections	Keokuk Co	$2,926,000		PRF	2022
IA 92 bridge replacement over Muchakinock Creek	Mahaska Co	$3,899,000		PRF	2021
IA 92 bridge replacement over Skunk River	Mahaska Co	$3,900,000		PRF	2022
IA 1 culvert replacement on Franklin St	Keosauqua	$300,000		PRF	2021
IA 149 bridge replacement of Park Blvd	Ottumwa	$1,402,000		PRF	2020
US 34 bridge deck overlay on Main St	Ottumwa	$252,000		PRF	2021
US 34 bridge deck overlay over Bear Creek	Wapello Co	$275,000		PRF	2022
US 34 bridge deck overlay over Bardell St	Ottumwa	$390,000		PRF	2022

Source: RPA 15 2019-2022 Transportation Improvement Program, 2020-2023 STBG/SWAP applications

Figure 4.8: Potential Road and Bridge Projects Beyond Five Years

Project	Location
Old 34/Burlington Road resurfacing	Fairfield
Business 34 bridge replacement east of Fairfield	Fairfield
Old 34/Bus 34 resurfacing East and West of Fairfield	Jefferson Co
V45 repaving from Sigourney to Keswick	Keokuk Co
W15 repaving from Richland to 277th	Keokuk Co
G13 repaving from V44 to 215th	Keokuk Co
V67 repaving from IA 78 to Ollie	Keokuk Co
T38 repaving G78 to Blums Corner	Mahaska Co
G29 repaving US63 to Independence	Mahaska Co
G5T repaving Skunk River to US 63	Mahaska Co
G17 repaving US 63 to V13	Mahaska Co
J40 repaving Davis Co to Keosauqua	Van Buren Co
V64 repaving J40 to IA 16	Van Buren Co
Source: RPA 15 Technical Advisory Committee	

Figure 4.9: State Long-Range Transportation Plan Highway Needs

Route	Counties	Corridor	Type of Improvement				
			Mobility and Safety	Freight	Condition	Bridge	Stewardship
US 34	Monroe, Wapello	IA 5 to Ottumwa W CL	X			X	
US 34	Wapello	Ottumwa W CL to US 63	X	X			
US 34	Wapello, Jefferson	US 63, to IA 1	X				
US 34	Jefferson, Henry	IA 1 to US 218	X				
US 63	Davis, Wapello	MO Border to US 34	X	X		X	
US 63	Wapello	US 34 to IA 149	X	X			
US 63	Wapello, Mahaska	IA 149 to IA 92	X	X			
US 63	Mahaska, Poweshiek	IA 163 to I-80	X	X			
IA 1	Van Buren, Jefferson	IA 2 to US 34				X	X
IA 1	Jefferson, Keokuk, Washington	US 34 to IA 92		X		X	
IA 2	Davis, Van Buren, Lee	US 63 to US 218				X	
IA 16	Lee, Van Buren, Davis, Wapello	US 218 to US 34				X	
IA 21	Keokuk	IA 78 to IA 92			X		
IA 21	Keokuk, Poweshiek	IA 92 to I-80		X			
IA 22	Keokuk, Washington	IA 21 to IA 1			X		X
IA 23	Keokuk, Mahaska	IA 149 to IA 92			X		
IA 78	Keokuk	IA 149 to IA 1				X	
IA 78	Washington, Jefferson, Henry	IA 1 to US 218					X
IA 81	Van Buren	MO Border to IA 2					X
IA 92	Marion, Mahaska	IA 5 to US 63		X	X	X	
IA 92	Mahaska, Keokuk, Washington	US 63 to IA 1		X	X	X	
IA 137	Monroe, Wapello	IA 5 to US 63		X			
IA 146	Mahaska Poweshiek	US 63 to I-80		X			
IA 149	Wapello	US 34 to US 63				X	
IA 149	Wapello, Keokuk	US 63 to IA 92					X
IA 149	Keokuk, Iowa	IA 92 to I-80					X
IA 163	Marion, Mahaska	IA 14 to US 63					X

Source: Iowa In Motion 2045: State Transportation Plan
https://iowadot.gov/iowainmotion/
Accessed: 5/04/19

Figure 4.10: Planned and Potential Iowa Department of Transportation District 5 Improvements

COUNTY	ROUTE	PROJECT LOCATION	TYPE OF WORK	ANTICIPATED
Jefferson	001	From 227th St. S. of Fairfield bypass N. to Old US 34	Mill & Overlay	Not Programmed
Jefferson	001	South Walnut Creek 5.7 mi S of IA 78	Bridge Deck Overlay	1/22/2020
Jefferson	001	S of Libertyville Rd to Fillmore Ave in Fairfield	PCC Pavement - Grade and New	12/21/2021
Jefferson	001	Middle Walnut Creek 3.1 mi S of S Jct IA 78	Bridge Deck Overlay	1/19/2022
Jefferson	001	Big Cedar Creek 2.8 mi S of US 34	Bridge Rehabilitation	1/18/2023
Keokuk	021	From NCL of What Cheer to N. of IA 85	HMA Resurfacing/Cold in Place Recycling	11/19/2019
Keokuk	092	Within the City of Sigourney	Reconstruction	Not Programmed
Keokuk	149	IA 78 to 0.25 mi. S. of W. Kelly St. in Sigourney	HMA Resurfacing	Not Programmed
Keokuk	149	Within the City of Sigourney	Reconstruction	Not Programmed
Keokuk	021	6th St in Delta to IA 92	HMA Paved Shoulder - New and Diamond grind.	2/19/2019
Keokuk	021	N 1st St to 6th St in Delta	PCC Sidewalk/Trail (ADA Improvements)	12/17/2019
Keokuk	021	N 1st St to 6th St in Delta	HMA Resurfacing with Milling	12/17/2019
Keokuk	021	IA 149 to N 1st St in Delta	PCC Pavement - Replace	3/17/2020
Keokuk	022	E Jct 149 to Wellman	HMA Resurfacing Hot in place recycling with overlay	4/16/2019
Keokuk	022	IA 21 to E Jct IA 149	Microsurfacing	11/17/2020
Keokuk	078	ICE RR 8.8 mi E of IA 149	Bridge-Unspecified	11/16/2021
Keokuk	078	Richland Creek 5.8 mi E of IA 149	Bridge-Unspecified	1/18/2023
Keokuk	092	Clear Creek 2.5 mi W of Co Rd W15	Bridge Deck Overlay	1/20/2021
Keokuk	092	IA 21 and Co Rd V33 Intersections	PCC Pavement - Grade and Replace	1/19/2022
Keokuk	149	IA 92 to IA 22 in Webster	HMA Resurfacing Hot in place recycling with overlay	4/16/2019
Mahaska	063	From Oskaloosa to New Sharon	Grade and Pave	Not Programmed
Mahaska	023	Tributary of Cedar Creek 0.8 mi N of Co Rd T67	Bridge-Unspecified	1/18/2023
Mahaska	063	NW Bypass of Oskaloosa	Grading	FY 2024
Mahaska	092	Muchakinock Creek 1.3 mi W of IA 163	Bridge Replacement-PPCB	11/17/2020
Mahaska	092	North Skunk River 2.2 mi E of E Jct Co Rd V13	Bridge-Unspecified	11/16/2021
Mahaska	092	SE Oskaloosa Bypass	Preliminary Engineering	Not Programmed
Van Buren	001	0.1 mi N of Franklin St in Keosauqua	Structures - Miscellaneous	10/20/2020
Van Buren	001	Little Lick Creek 1.2 mi N of S Jct IA 16	Bridge-Unspecified	10/18/2022
Van Buren	002	Fox River 1.5 mi E of Co Rd V64	Reconstruction - Bridge Deck Replacement	10/17/2023
Wapello	034	Wildwood Dr. to W. Jct US 63 in Ottumwa	Reconstruction and other improvements	Not Programmed
Wapello	063	From Chillicothe to just S. of Oskaloosa (old sections)	CIP & HMA Resurface	Not Programmed
Wapello	063	Village Creek 3.1 mi S of US 34	Reconstruction - Bridge Widening	11/15/2022
Wapello	063	From Bloomfield to Ottumwa	Super 2 Highway	Not Programmed
Wapello	149	Des Moines River to N. Mclean St.	Pavement replacement from MP .53 to MP 1.34	Not Programmed
Wapello	149	IA 163 to IA 23	Pavement replacement from MP 6.71 to MP 11.53	Not Programmed
Wapello	034	IA 149 Intersection in Ottumwa	PCC Pavement - Grade and New	1/22/2020
Wapello	034	E Main St 1.4 mi E of W Jct US 63 in Ottumwa	Bridge Deck Overlay	1/20/2021
Wapello	034	Bear Creek 1.2 mi W of Co Rd H35	Bridge Deck Overlay	1/19/2022
Wapello	034	Bardell St 0.5 mi E of IA 149 in Ottumwa (WB)	Bridge Deck Overlay	1/19/2022
Wapello	034	BNSF 1.2 E of W Jct US 63 in Ottumwa (EB/WB)	Reconstruction - Bridge Deck Replacement	10/17/2023
Wapello	034	South Avery Creek 0.7 mi E of Co Rd T61	Bridge Deck Overlay	3/21/2023
Wapello	063	SB/NB US 63 Over Drainage Ditch 0.3 mi S of Ottumwa	Bridge Replacement-CCS	9/17/2019
Wapello	063	River Rd / Co Rd J12 to US 34 in Ottumwa	PCC Pavement - Grade and New	12/17/2019
Wapello	063	US 63 Over Bike Trail 0.1 mi S of Ottumwa	RCB Culvert New - Single Box	9/17/2019
Wapello	063	Village Creek 3.1 mi S of US 34	Reconstruction - Bridge Widening	11/15/2022
Wapello	063	Little Soap Creek 1.9 miles N of Davis Co	Reconstruction - Bridge Deck Replacement	11/15/2022
Wapello	063	Local Rds / Detour Route in Ottumwa	HMA Paved Shoulder - New	5/21/2019
Wapello	149	W Park Blvd 1.4 mi N of US 34 in Ottumwa	Bridge Replacement-PPCB	11/19/2019

Source: Iowa Department of Transportation District 5 Planner

Obtained: 6/25/19

Funding Sources and Anticipated Funding

Cities and Counties have three main sources of funding for road and bridge projects. These are: local taxes, road use taxes and state and federal grants. Local taxes are collected by the city and county and may include property taxes, sales taxes and franchise fees. Funds raised through these taxes do not have to be used for transportation, however many jurisdictions allocation a portion of the revenue from the taxes collected for transportation including road and bridge maintenance.

Road use taxes are collected from the sale of gasoline and diesel, and the sales tax on cars and trucks and vehicle registration fees. Twenty percent of the funds are raised

are allocated to the City Street Fund, 24.5% to the Secondary Road Fund, eight percent to the Farm-to-Market fund and 47.5 is put into the Primary Road Fund. Every city in the state receives funding from the City Street Fund and every county from the Secondary Road Fund and the Farm to Market fund. City Street Fund money may be used by a city for the construction and maintenance any road in the city. The Secondary Road fund may be used by a county for the construction for maintenance of secondary road. Money from the Farm-to-Market fund may be used to construct or maintain a road or bridge on the Farm-to-Market system.

In 2008 the TIME 21 fund was established by changing some vehicle registration fees and schedules and increasing the trailer and title fees. Sixty percent of the revenue raised by TIME 21 is allocated to the state, 20% to secondary roads and 20% to city streets. The shares allocated to secondary roads and city streets are combined with each county's Secondary Road Fund amount or each city's City Street Fund amount. This funding stream was designed to address a shortfall for road maintenance and construction.

In 2020 it is estimated that the cities within the region will receive a combined $21,432,093 from the City Street Fund. The five counties within the RPA are estimated to receive an estimated $26,101,965 from the Secondary Road Fund and $5,067,778 from the Farm-to-Market fund. Figure 4.11 shows the estimated non-federal aid revenues for cities and counties within the region for 2020-2023.

Figure 4.11: RPA 15 Forecasted Non Federal-aid Revenues				
	2020	2021	2022	2023
Farm to Market	$4,785,844	$4,881,561	$4,979,192	$5,078,776
Secondary Road Fund	$29,150,036	$29,733,037	$30,327,697	$30,934,251
City Street Fund	$19,624,358	$20,016,845	$20,417,182	$20,825,526
Total Non Federal-aid Revenues	$53,560,238	$54,631,443	$55,724,072	$56,838,553
Based off of 2018 FM, Secondary Road and City Street reports				
Assumes 2% revenue growth per year				

Cities and counties may also apply to the Regional Planning Affiliation for up to 100% reimbursement on eligible activities from the Surface Transportation Block Grant/SWAP program. The RPA sub-allocates the STBG/SWAP funds received to the five counties, three urban areas, 10-15 regional transit, special projects and planning. The special projects category is used to fund projects in smaller cities with populations under 5,000 that do not receive a sub-allocation or to contribute to Iowa DOT projects in the region. Figure 4.12 shows the funding for the region and each of the counties and urban areas

for the next four years. The RPA is estimated to receive $2,734,957 in STBG/SWAP for projects in 2020.

Figure 4.12: STBG/SWAP Funding Targets			
	2019	2020	2021 - 2023
10-15 Transit	$50,000	$50,000	$50,000
Planning	$22,000	$22,000	$22,000
Special Projects	$100,000	$100,000	$100,000
Fairfield	$206,684	$215,387	$199,708
Oskaloosa	$250,340	$260,882	$241,891
Ottumwa	$546,476	$569,489	$528,033
Jefferson Co	$276,779	$284,892	$270,277
Keokuk Co	$301,186	$310,015	$294,111
Mahaska Co	$320,372	$329,763	$312,846
Van Buren Co	$273,602	$281,621	$267,174
Wapello Co	$302,054	$310,908	$294,958
Total	$2,649,492	$2,734,957	$2,581,000

Source: FFY2020-2023 STBG targets, RPA 15 Balance sheet

Counties also receive an allocation of STBG-B/SWAP funds for bridge projects each year. Each county's target is based on their balance from the previous year, the projects the county anticipates letting in the coming year and the expected funding levels for the state. There is also bridge funding available to cities that may be applied for by submitting a letter to the Iowa Department of Transportation for an eligible bridge describing the project and the cost.

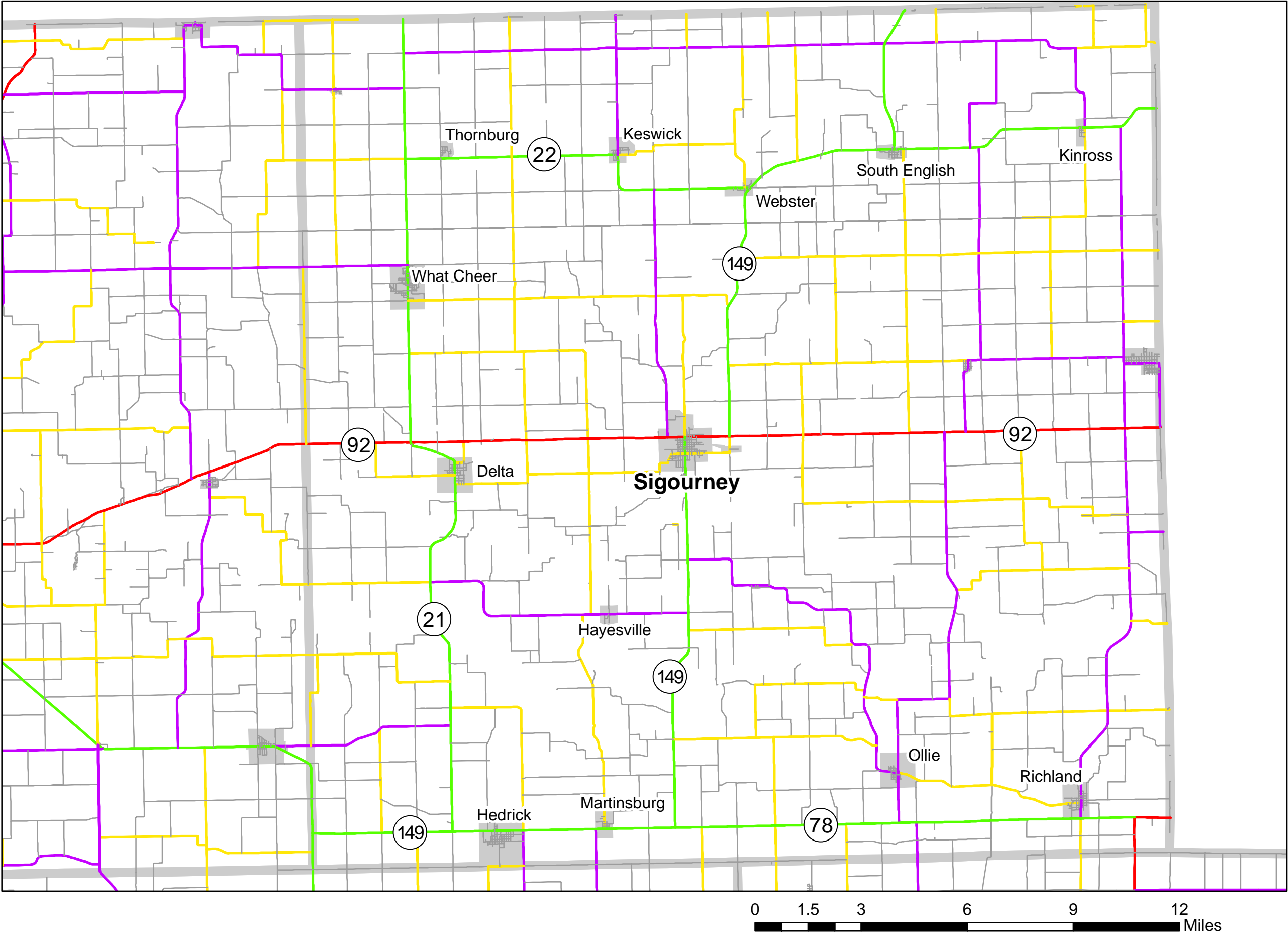# Map 4.1: Federal Functional Classification of Jefferson County Roads
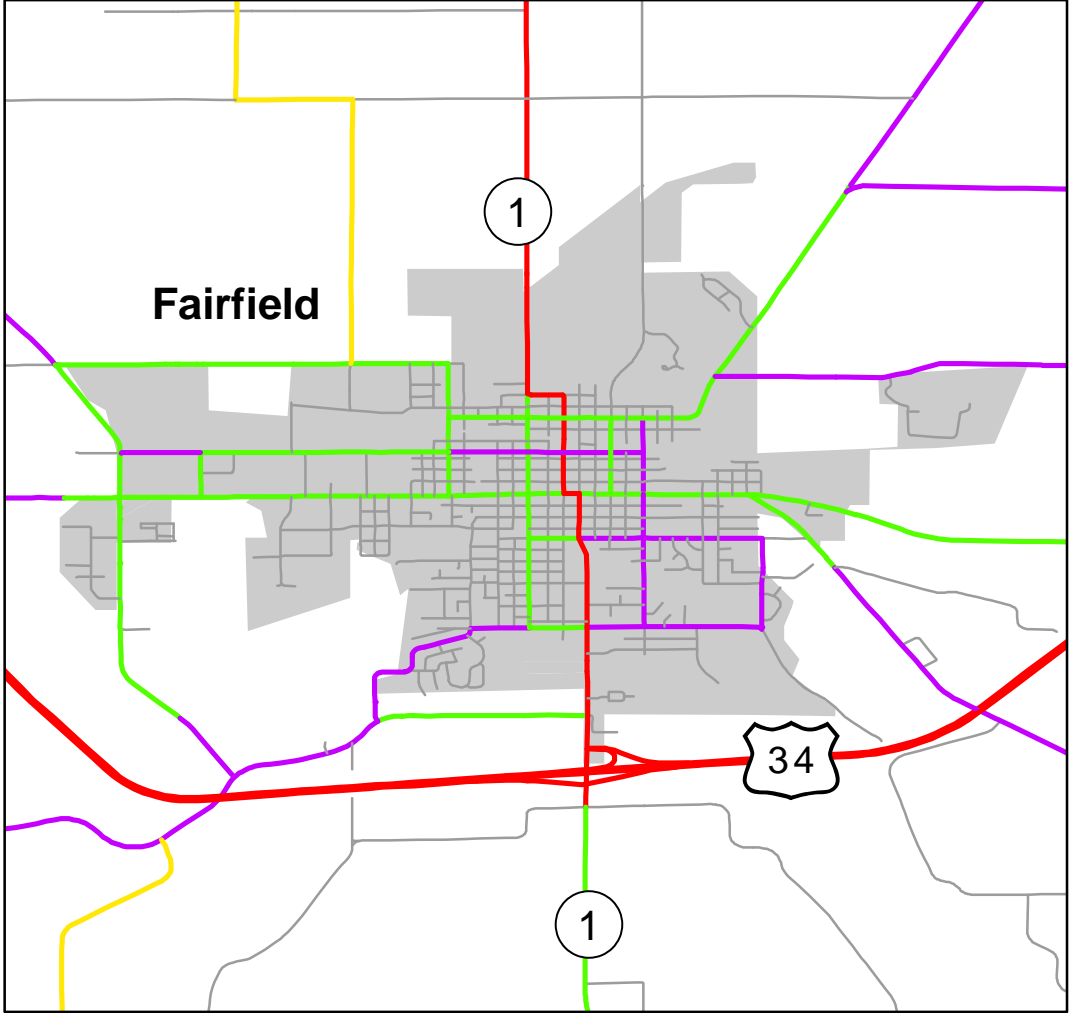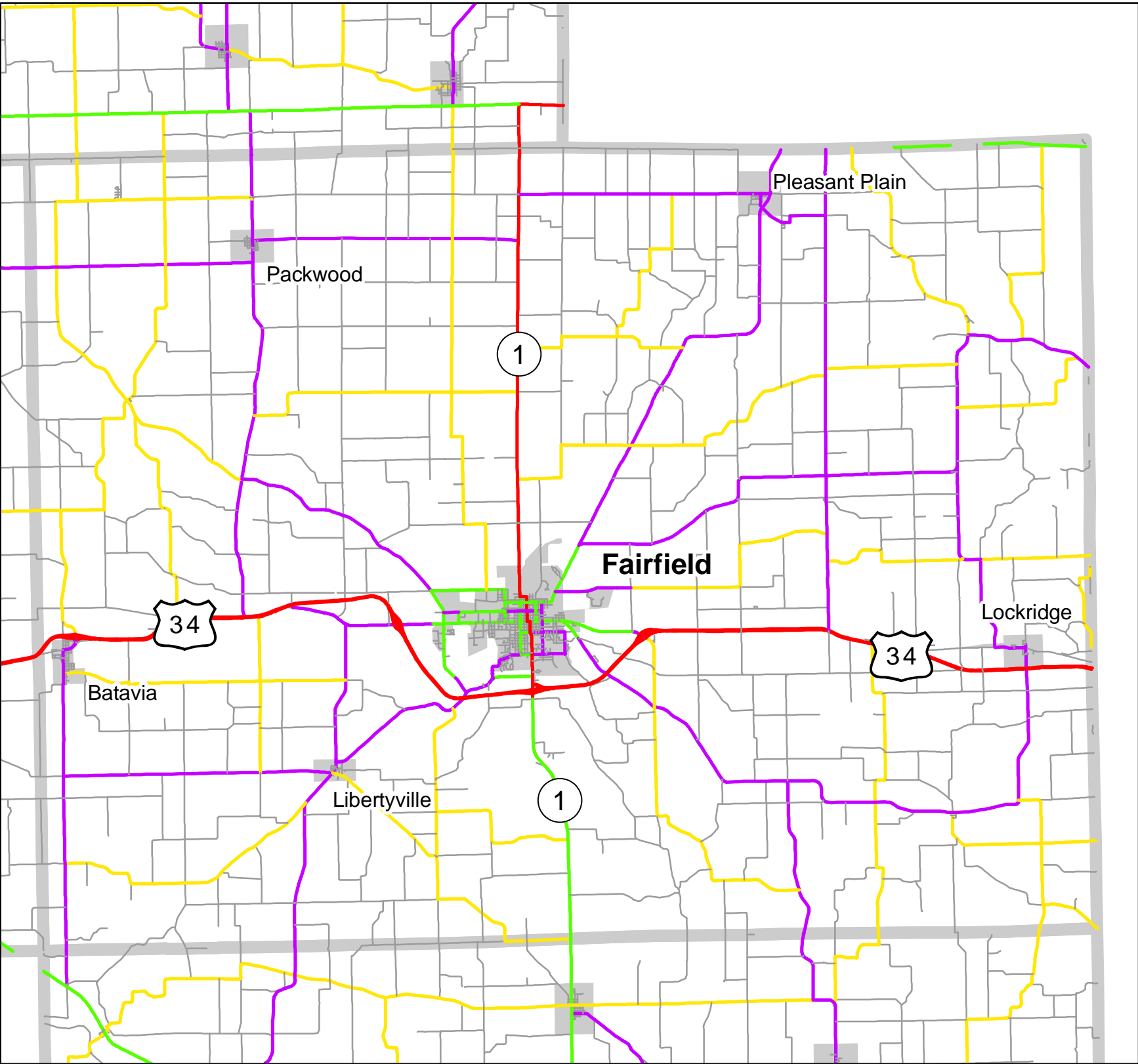
Pleasant Plain

Packwood

Fairfield

Lockridge

Batavia

Libertyville

Fairfield

Legend

Cities	
Counties	

Federal Functional Class

——	Principal Arterial
——	Minor Arterial
——	Major Collector
——	Minor Collector
——	Local

0 2 4 8 12 16
Miles

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 04-30-19

Map 4.2: Federal Functional Classification of Keokuk County Roads

N

Thornburg

22

Keswick

Kinross

South English

Webster

149

What Cheer

92

92

Delta

Sigourney

21

Hayesville

149

Ollie

Richland

Hedrick

Martinsburg

149

78

Legend

Cities

Counties

Federal Functional Class
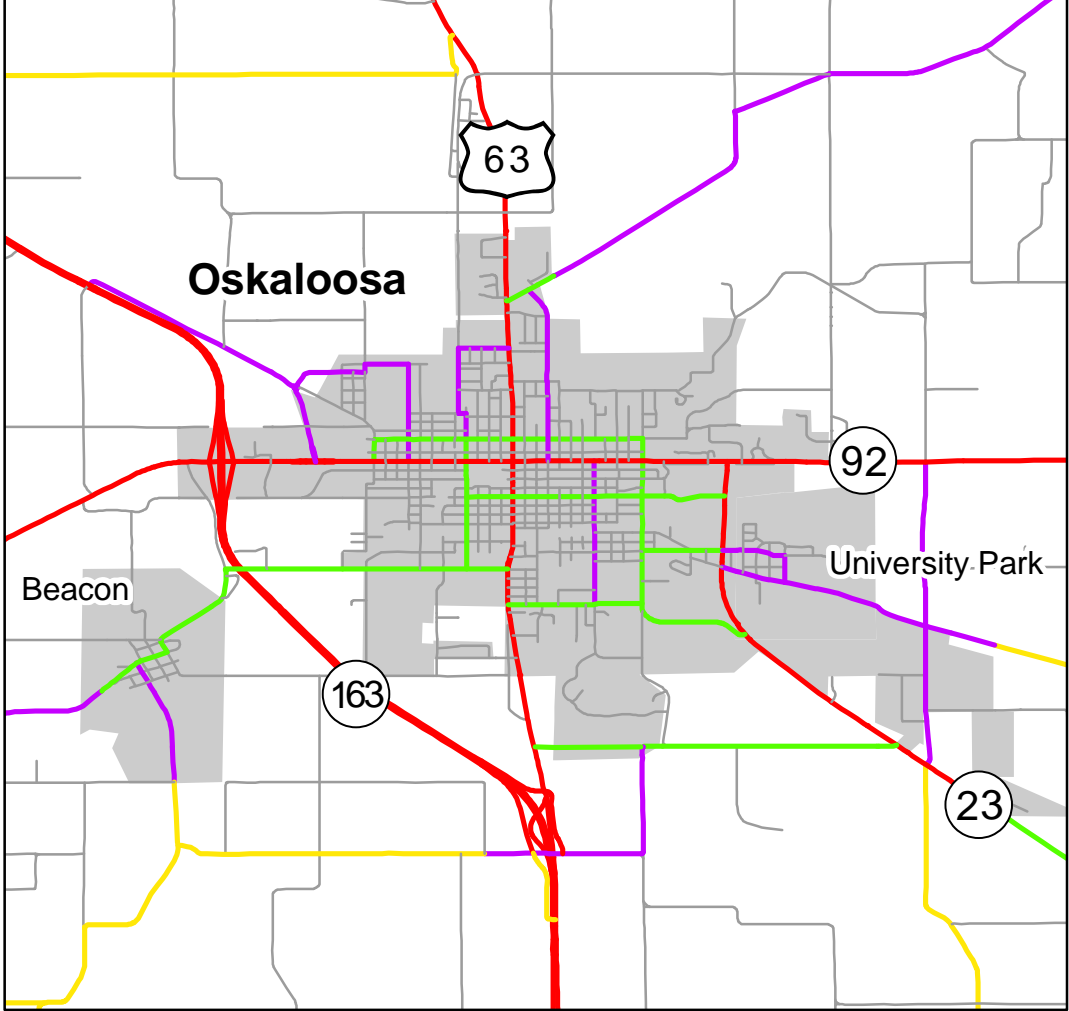
— Principal Arterial

— Minor Arterial

— Major Collector

— Minor Collector

— Local

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 04-30-19

| 0 | 1.5 | 3 | 6 | 9 | 12 |

Miles

Map 4.3: Federal Functional Classification of Mahaska County Roads

N

Barnes City

New Sharon

63

163

92

Leighton

Oskaloosa

92

Rose Hill

University Park

Beacon

23

Fremont

163

Oskaloosa

63

92

Beacon

University Park

163

23

0   2.25   4.5   9   13.5   18
Miles

Legend

Cities

Counties

Federal Functional Class

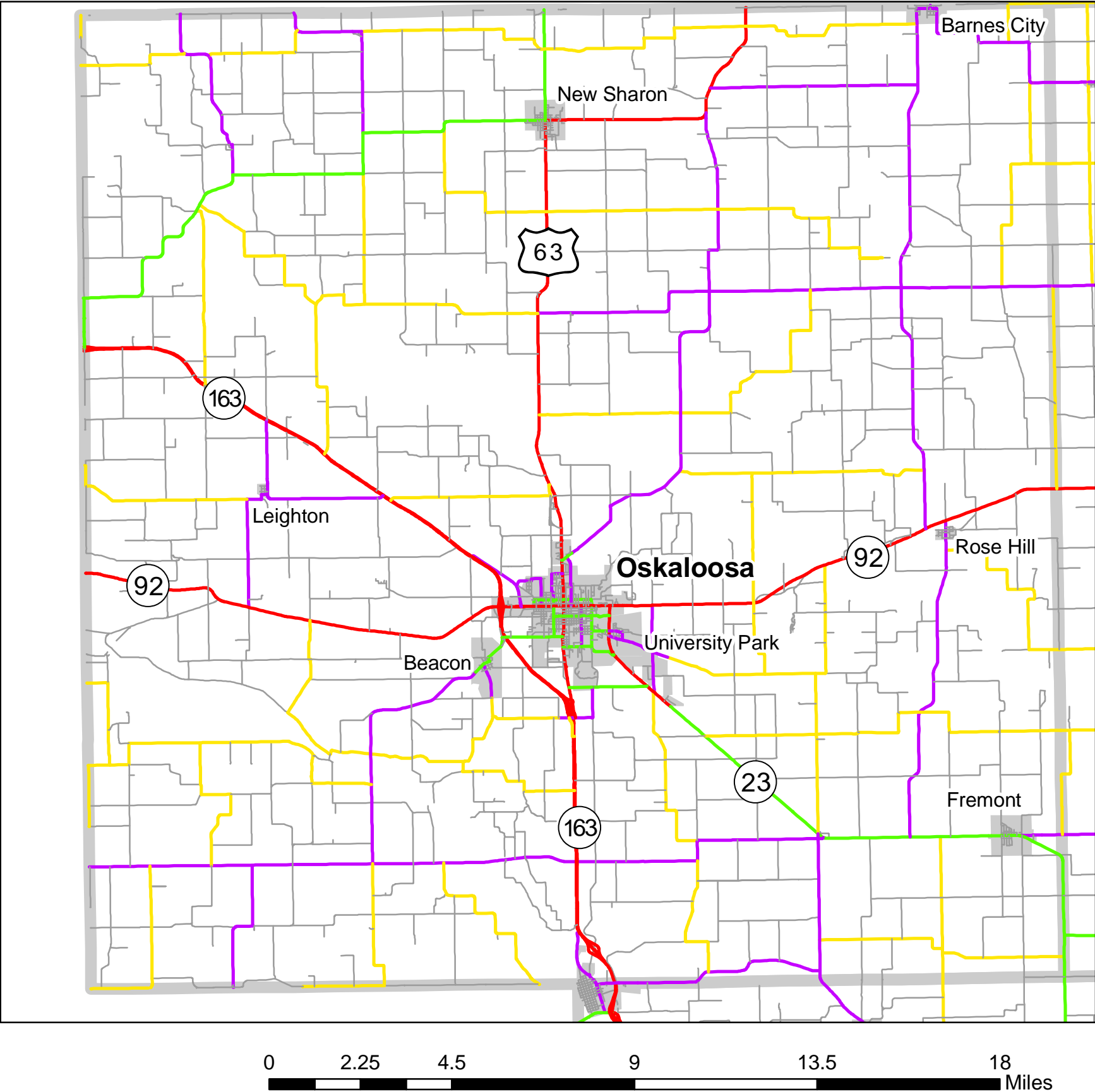— Principal Arterial

— Minor Arterial

— Major Collector

— Minor Collector

— Local

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 04-30-19

Map 4.4.: Federal Functional Classification of Van Buren County Roads

N

Birmingham

Stockport

16

1

Keosauqua

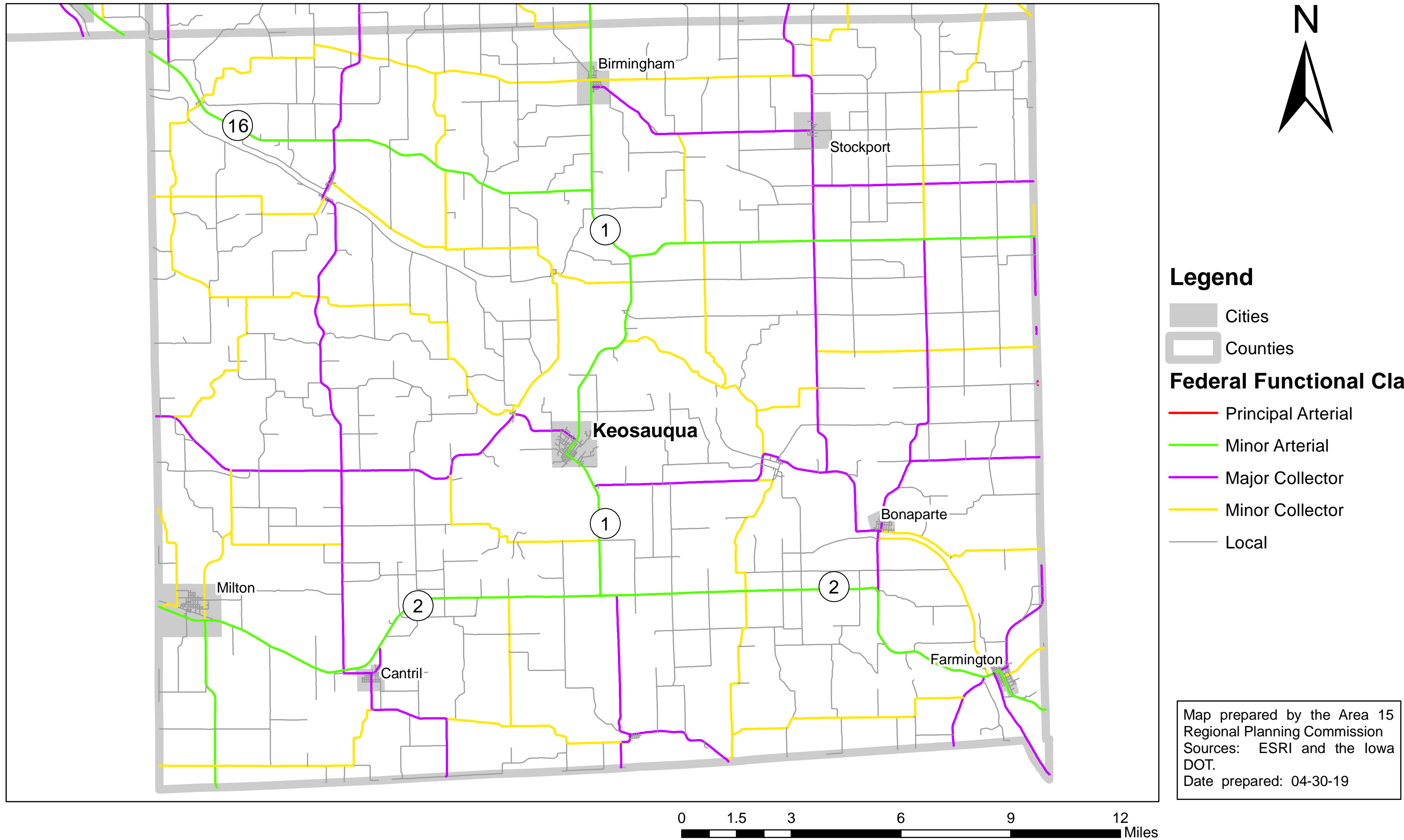Bonaparte

Milton

1

2

2

Cantril

Farmington

Legend

Cities

Counties

Federal Functional Class
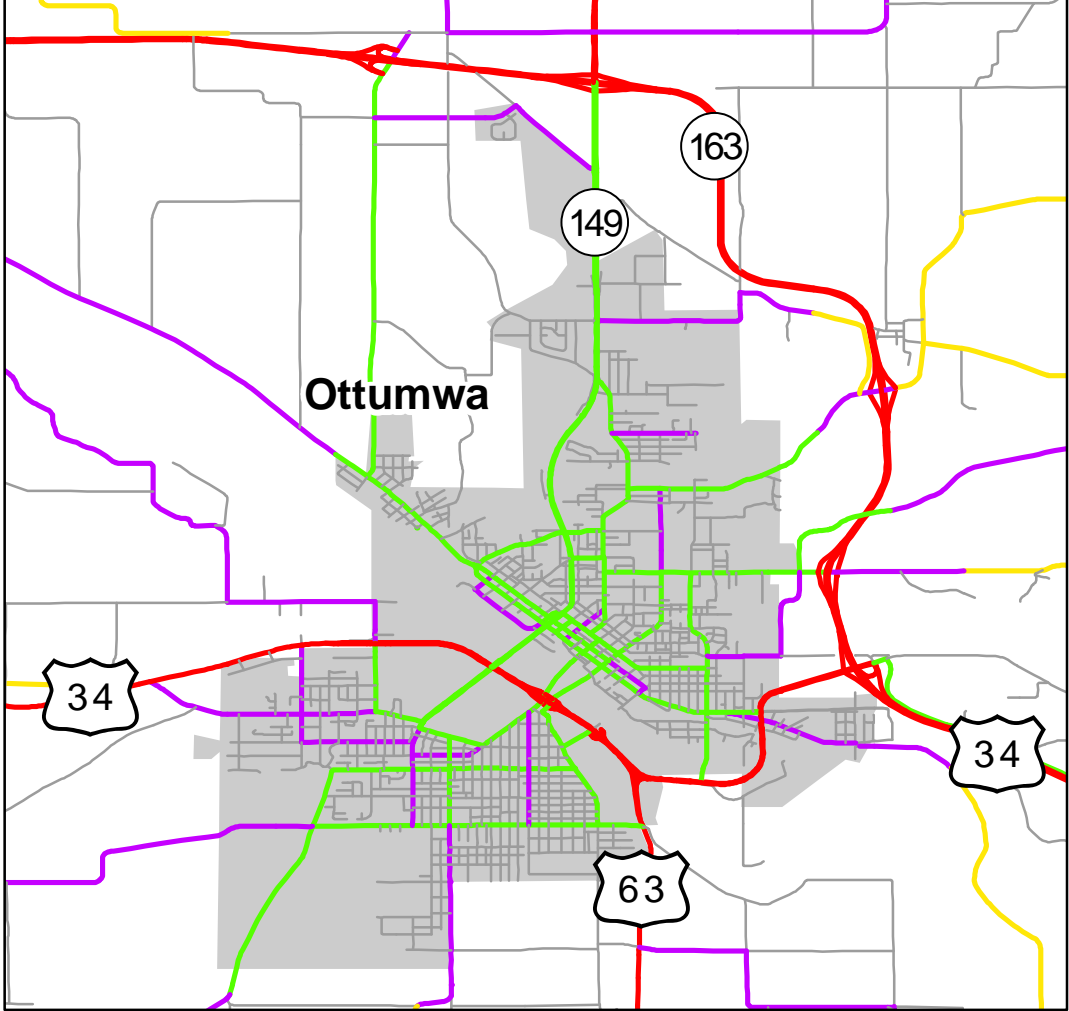
Principal Arterial

Minor Arterial

Major Collector

Minor Collector

Local

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 04-30-19

0   1.5   3   6   9   12
Miles

Map 4.5: Federal Functional Classification of Wapello County Roads
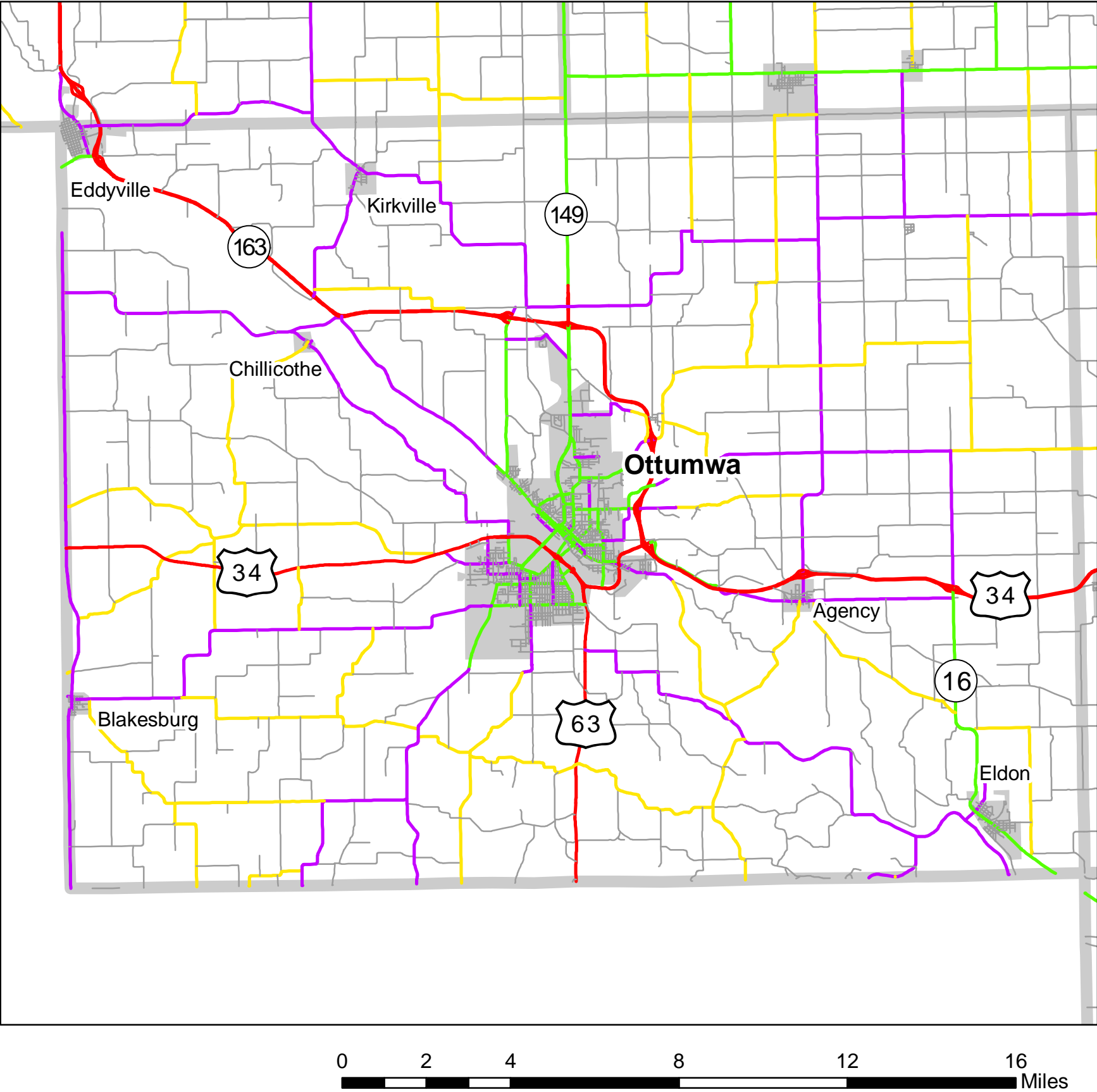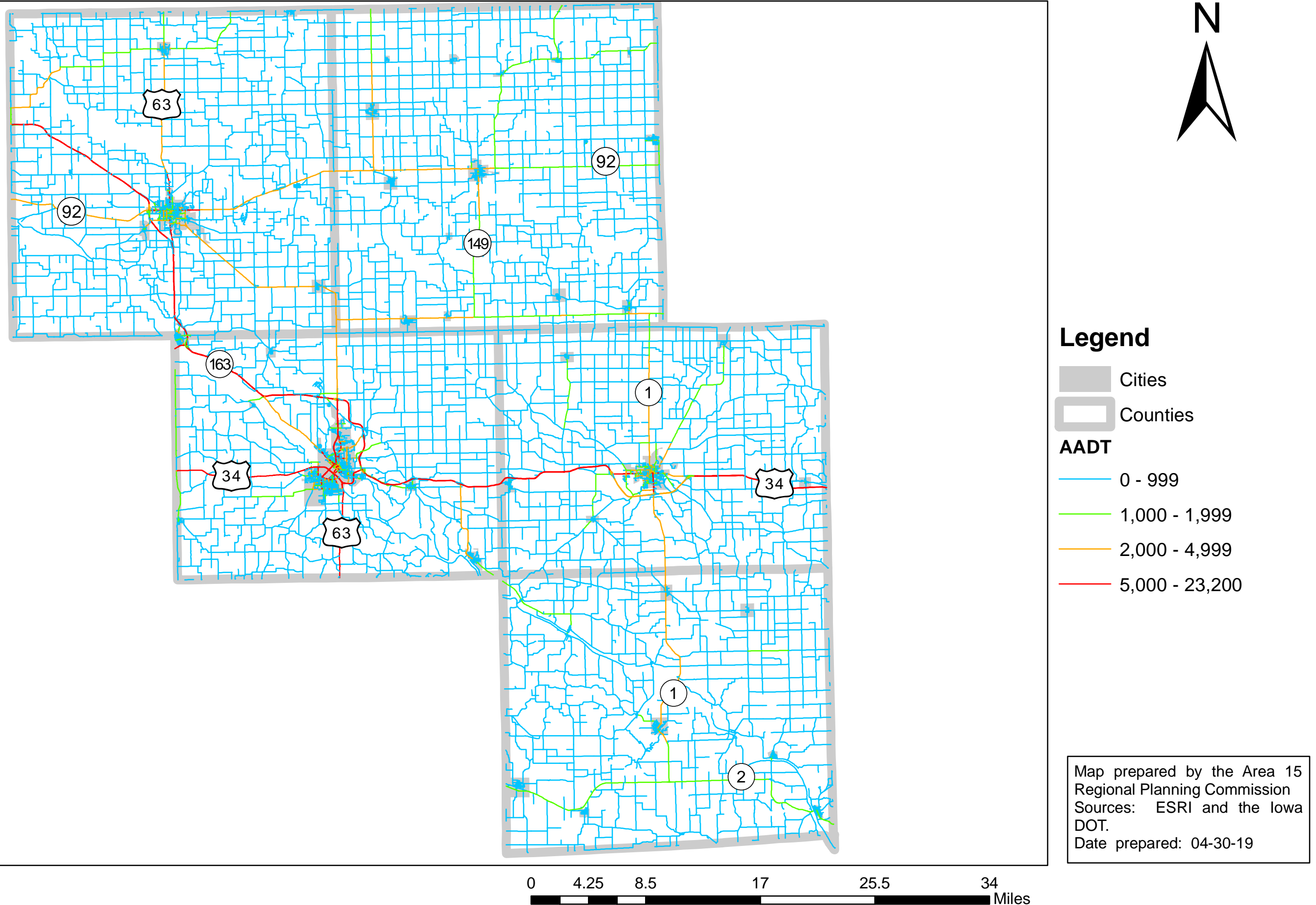

Legend

Cities

Counties

Federal Functional Class
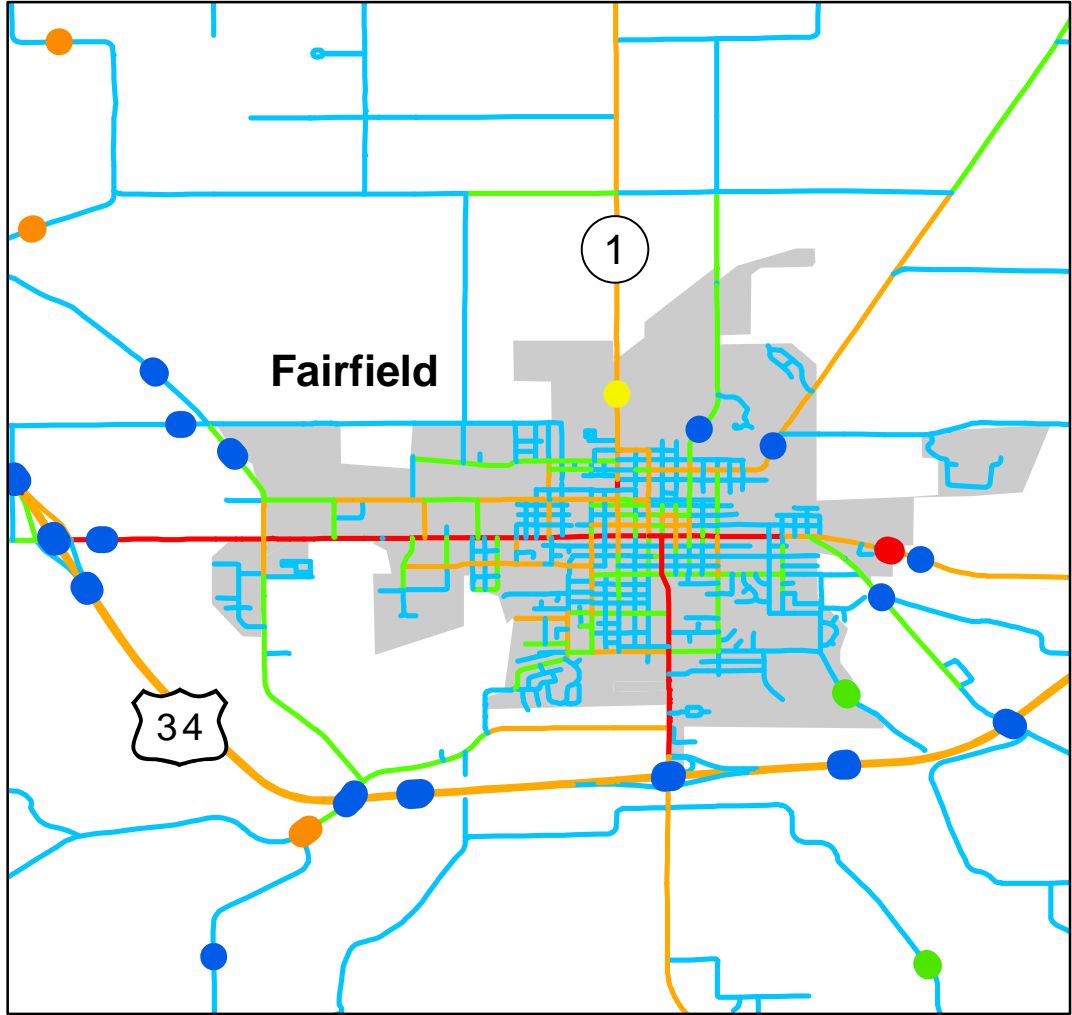
Principal Arterial

Minor Arterial

Major Collector

Minor Collector

Local

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 04-30-19

0   2   4   8   12   16 Miles

Eddyville
Kirkville
Chillicothe
Blakesburg
Ottumwa
Agency
Eldon
163
149
34
63
16
34

Map 4.6: 2017 Traffic Volume on RPA 15 Roads

N

Legend

Cities

Counties

AADT

— 0 - 999

— 1,000 - 1,999

— 2,000 - 4,999

— 5,000 - 23,200

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 04-30-19

0   4.25   8.5   17   25.5   34
Miles

Map 4.7: Traffic Volume and Bridge Sufficiency on Jefferson County Roads
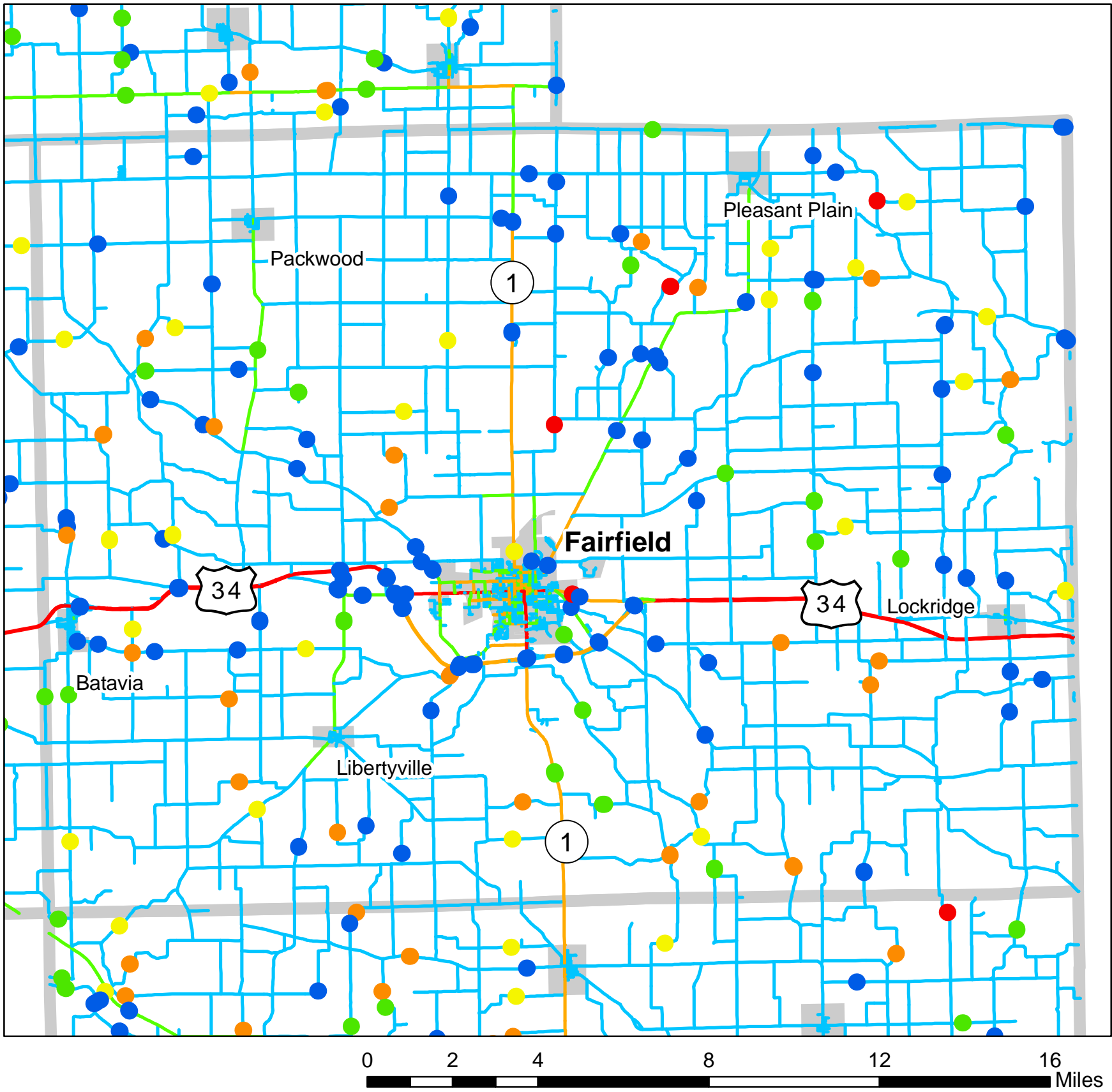
Legend

AADT

———	0 - 999
———	1,000 - 1,999
———	2,000 - 4,999
———	5,000 - 23,200

Bridge Sufficiency

⬤	0 - 20
⬤	21 - 40
⬤	41 - 60
⬤	61 - 80
⬤	81 - 100

Cities

Counties

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 04-30-19

N

0   2   4   8   12   16
Miles

Packwood
Pleasant Plain
Fairfield
Lockridge
Batavia
Libertyville

Map 4.8: Traffic Volume and Bridge Sufficiency on Keokuk County Roads

Legend

AADT

— 0 - 999

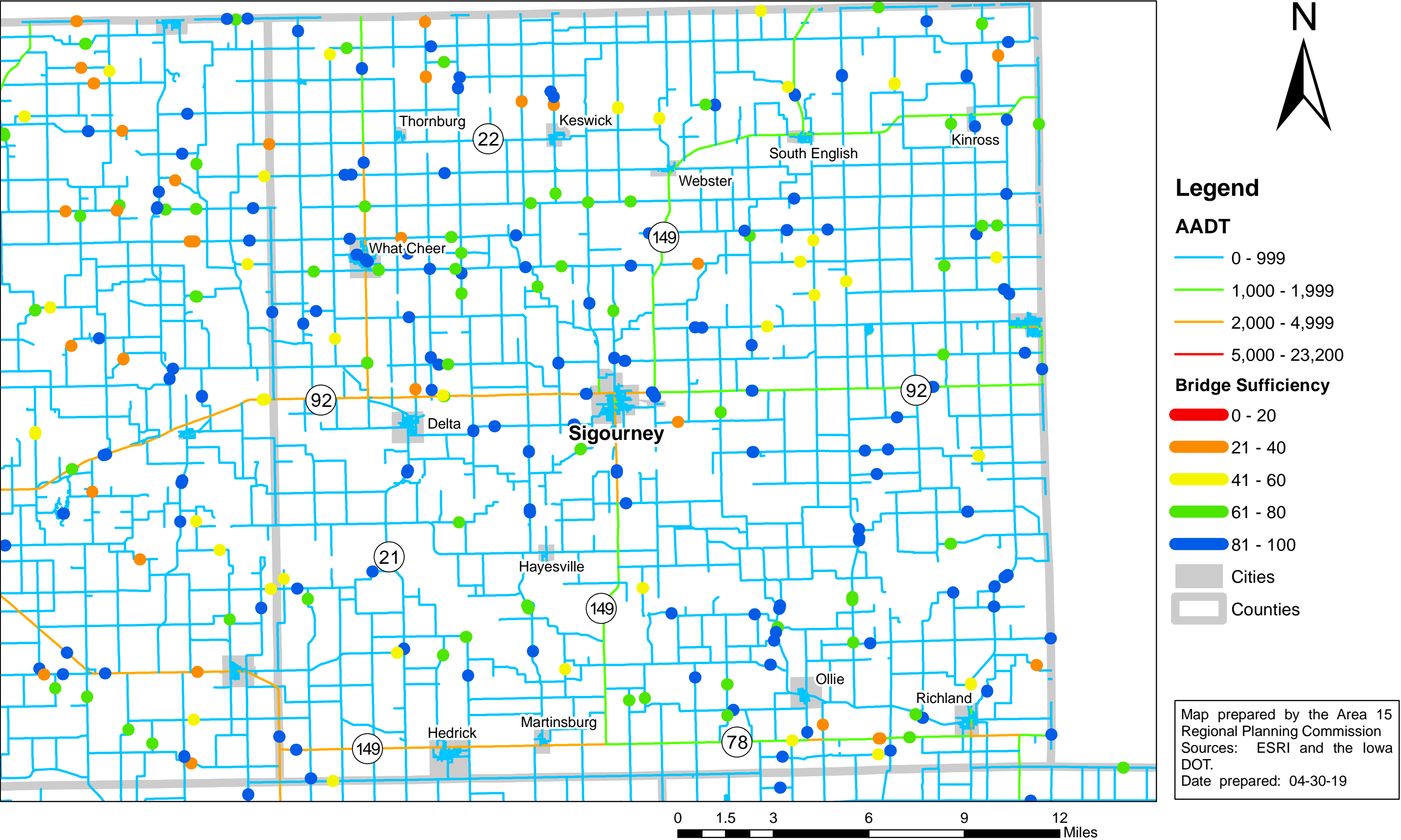— 1,000 - 1,999

— 2,000 - 4,999

— 5,000 - 23,200

Bridge Sufficiency
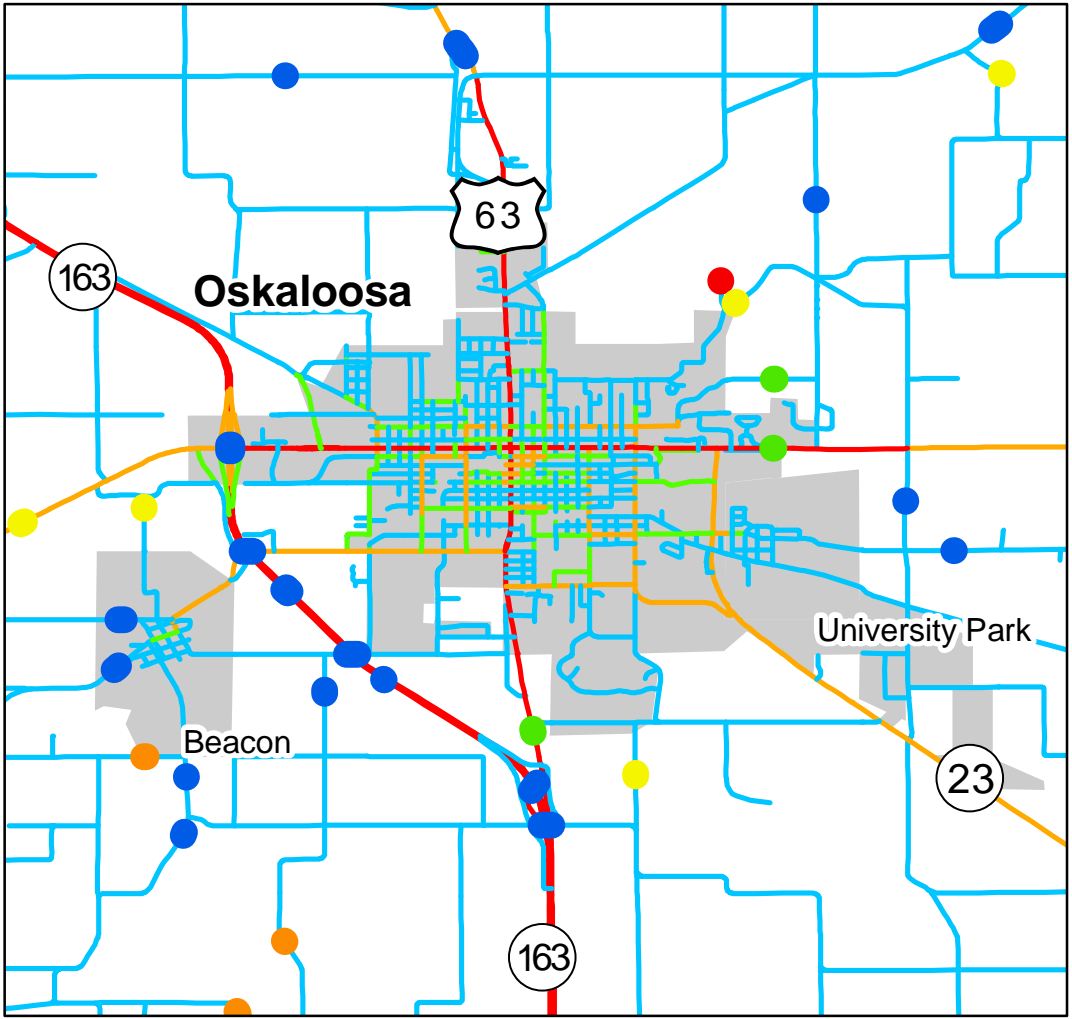
● 0 - 20

● 21 - 40

● 41 - 60

● 61 - 80

● 81 - 100

▨ Cities

▢ Counties

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 04-30-19

0   1.5   3   6   9   12
Miles

Thornburg 22 Keswick
South English Kinross
Webster 149
What Cheer
92 92
Delta Sigourney
21 Hayesville
149
Ollie Richland
Hedrick Martinsburg 78
149

Map 4.9: Traffic Volume and Bridge Sufficiency on Mahaska County Roads

Legend

AADT

――	0 - 999
――	1,000 - 1,999
――	2,000 - 4,999
――	5,000 - 23,200

Bridge Sufficiency

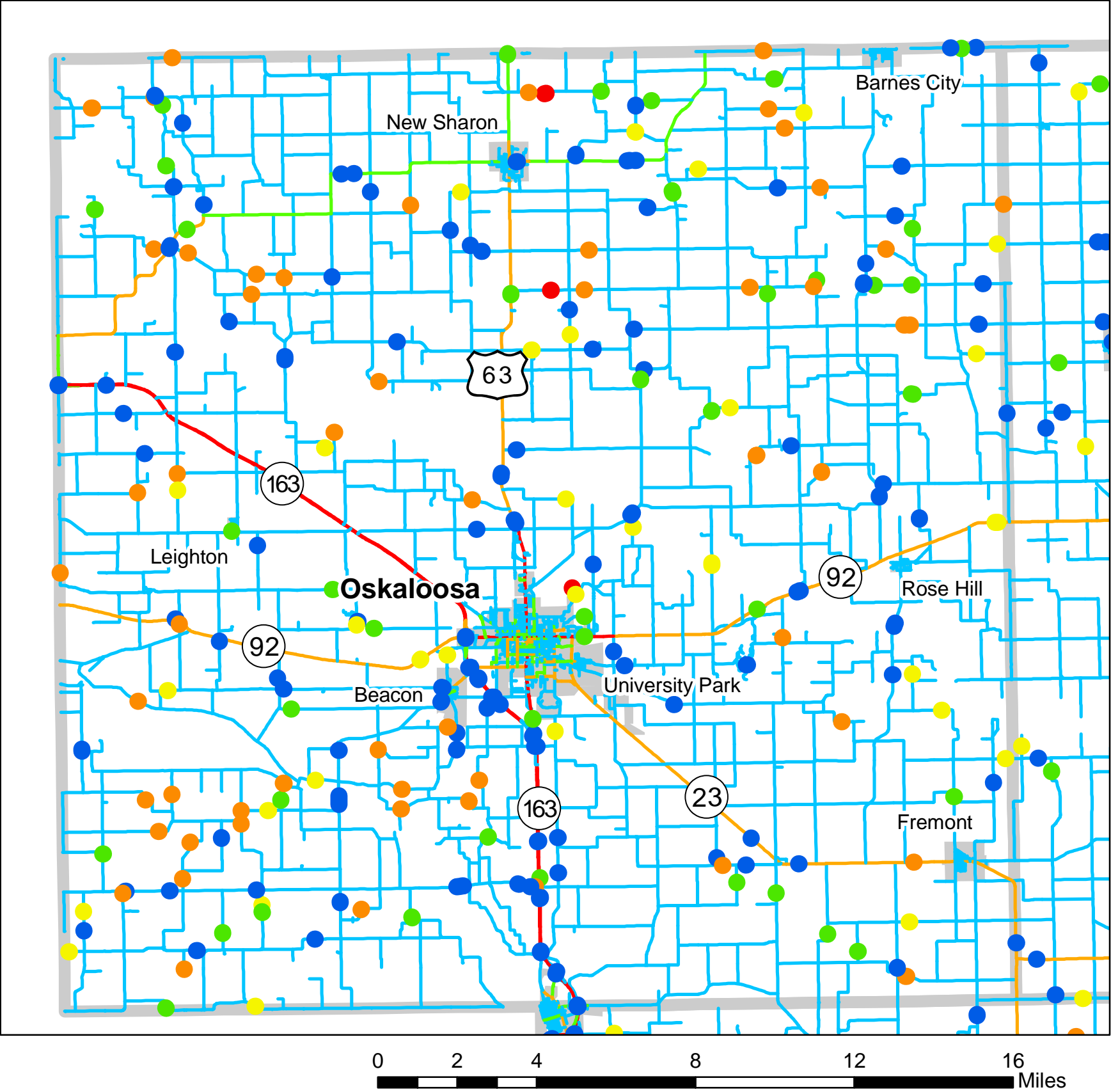|	
――	0 - 20
――	21 - 40
――	41 - 60
――	61 - 80
――	81 - 100

▢	Cities
▢	Counties

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 04-30-19

0   2   4   8   12   16
Miles

Map 4.10: Traffic Volume and Bridge Sufficiency on Van Buren County Roads

Birmingham

Stockport

Keosauqua

Bonaparte

Milton

Cantril

Farmington

Legend

AADT

—— 0 - 999

—— 1,000 - 1,999
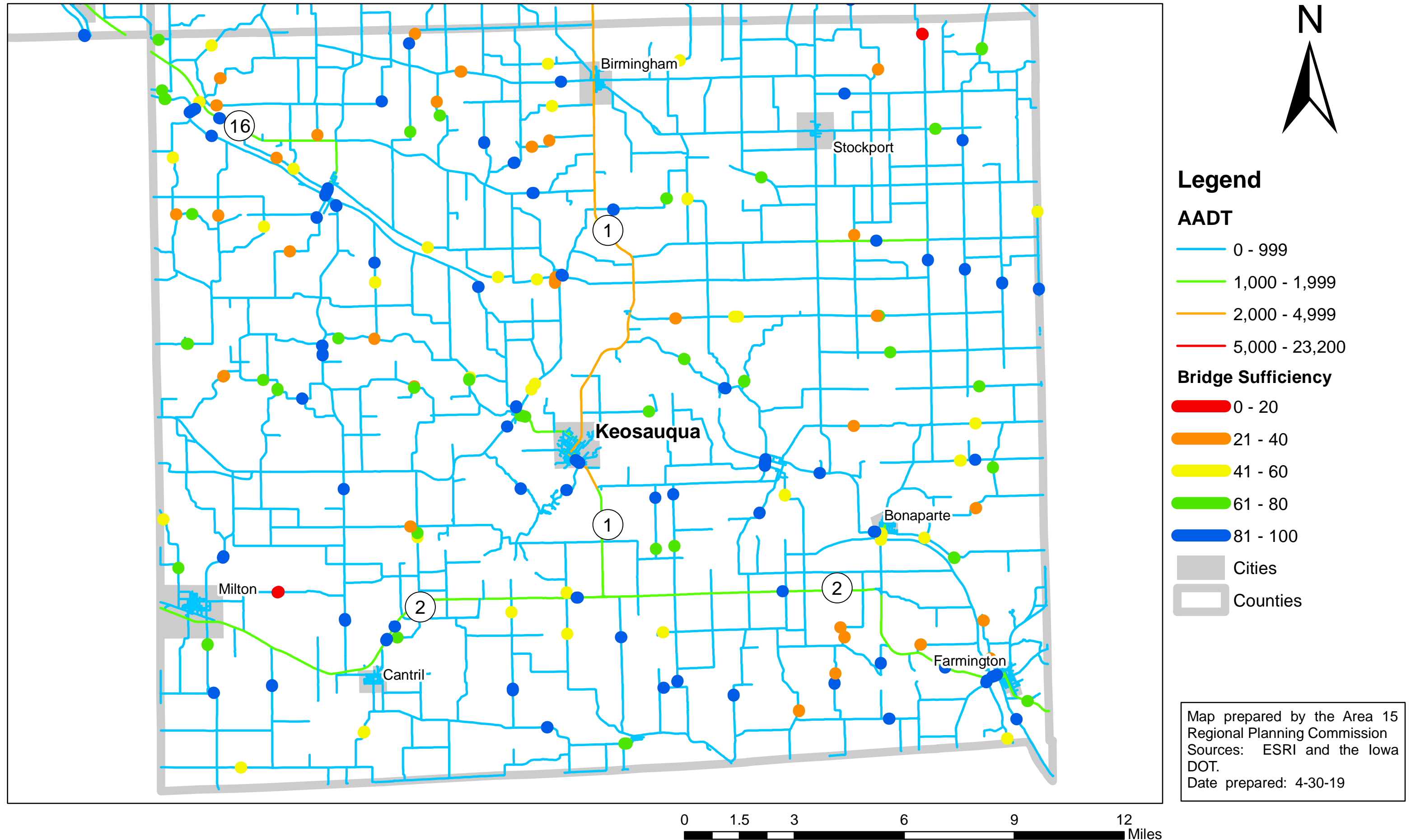
—— 2,000 - 4,999

—— 5,000 - 23,200

Bridge Sufficiency

● 0 - 20

● 21 - 40

● 41 - 60

● 61 - 80

● 81 - 100

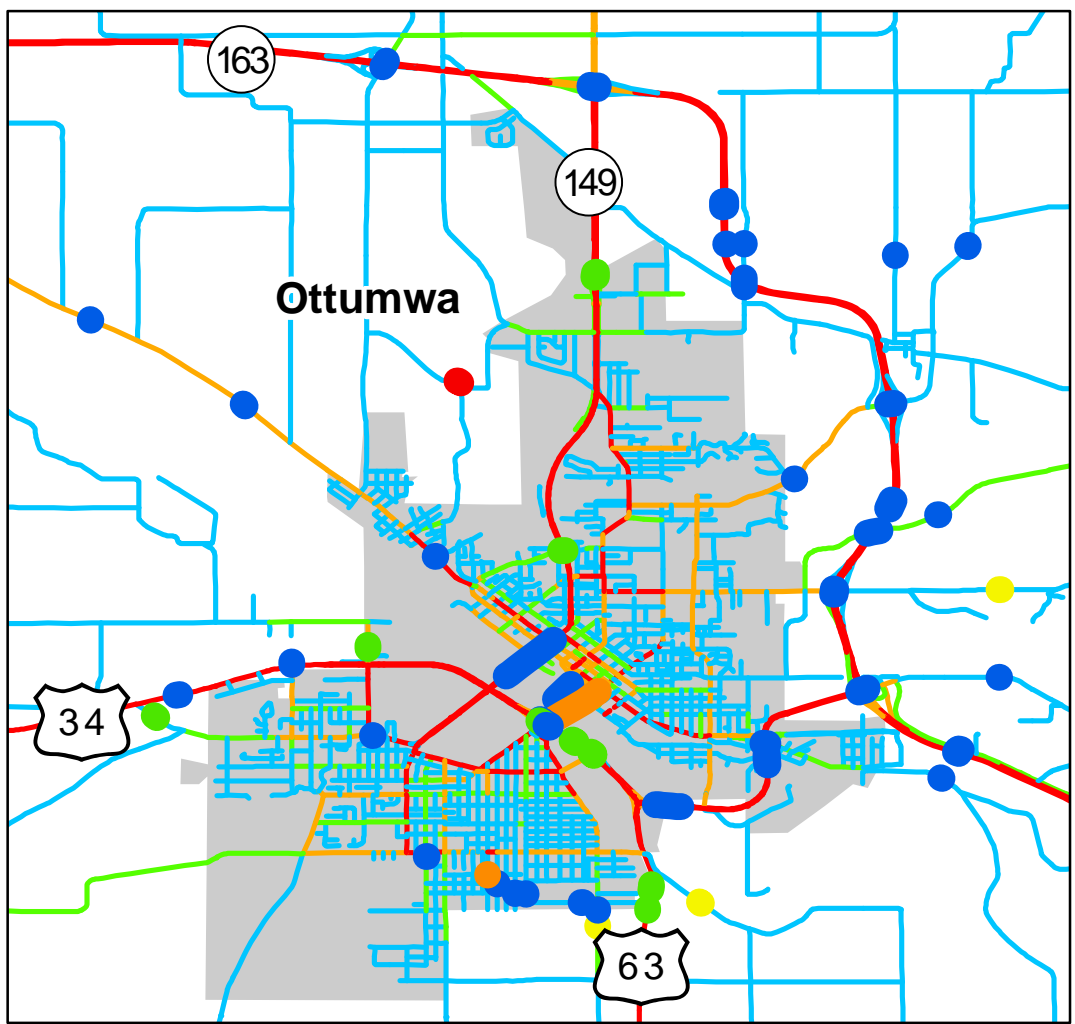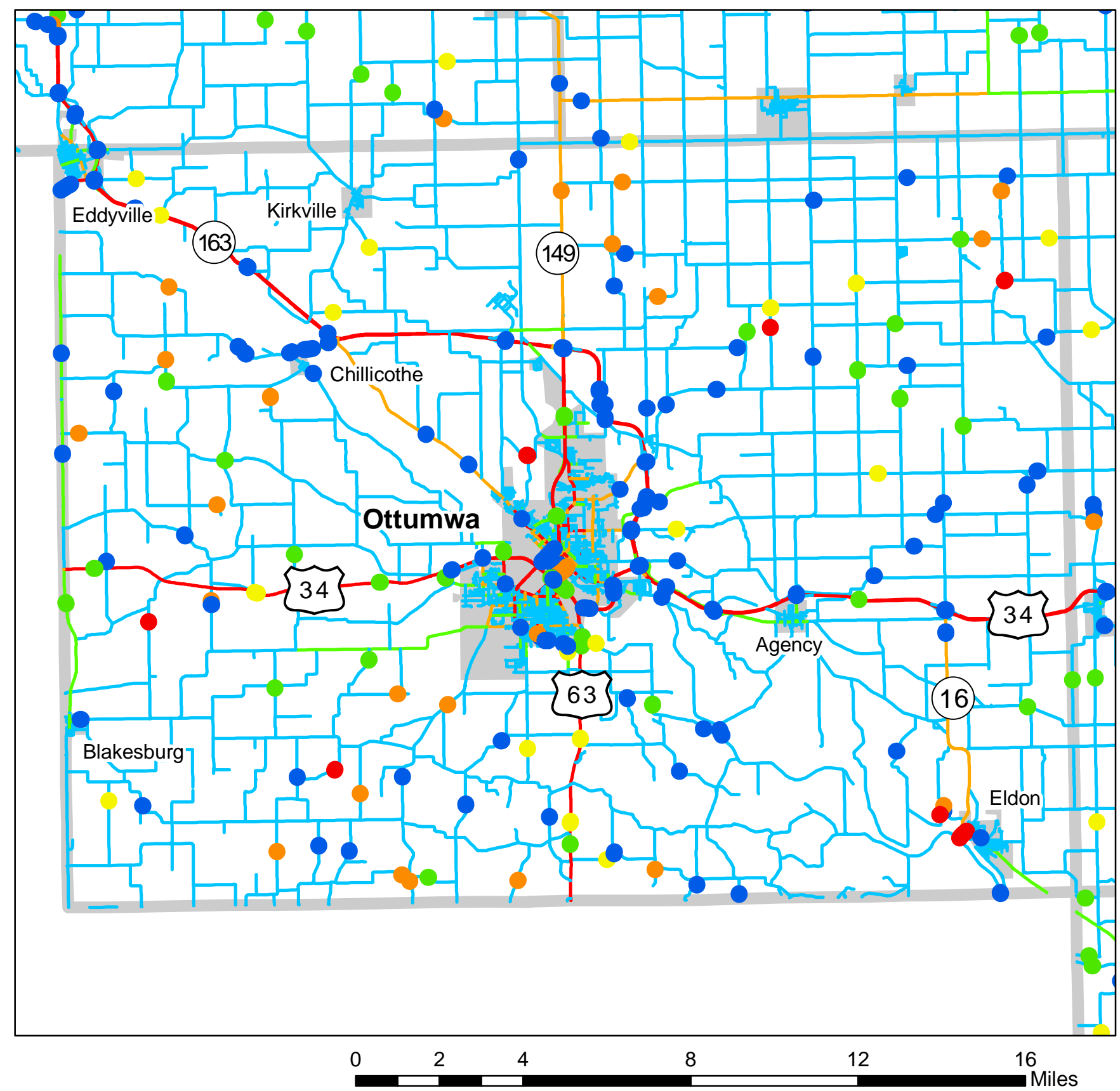▨ Cities

▢ Counties

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 4-30-19

0   1.5   3   6   9   12
Miles

Map 4.11: Traffic Volume and Bridge Sufficiency on Wapello County Roads

Eddyville

Kirkville

163

149

Chillicothe

Ottumwa

34

34

Agency

63

16

Blakesburg

Eldon

163

149

Ottumwa

34

63

N

Legend

AADT

— 0 - 999

— 1,000 - 1,999

— 2,000 - 4,999

— 5,000 - 23,200

Bridge Sufficiency

● 0 - 20

● 21 - 40

● 41 - 60

● 61 - 80

● 81 - 100

Cities

Counties

| 0 | 2 | 4 | 8 | 12 | 16 |
Miles

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 04-30-19

Map 4.12: 2017 Truck Traffic Volume on RPA 15 Roads

N

Legend

Cities

Counties

Truck AADT

— 0 - 127

— 128 - 470

— 471 - 1,120

— 1,121 - 1,997

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 05-01-19

0   4.25   8.5   17   25.5   34
Miles
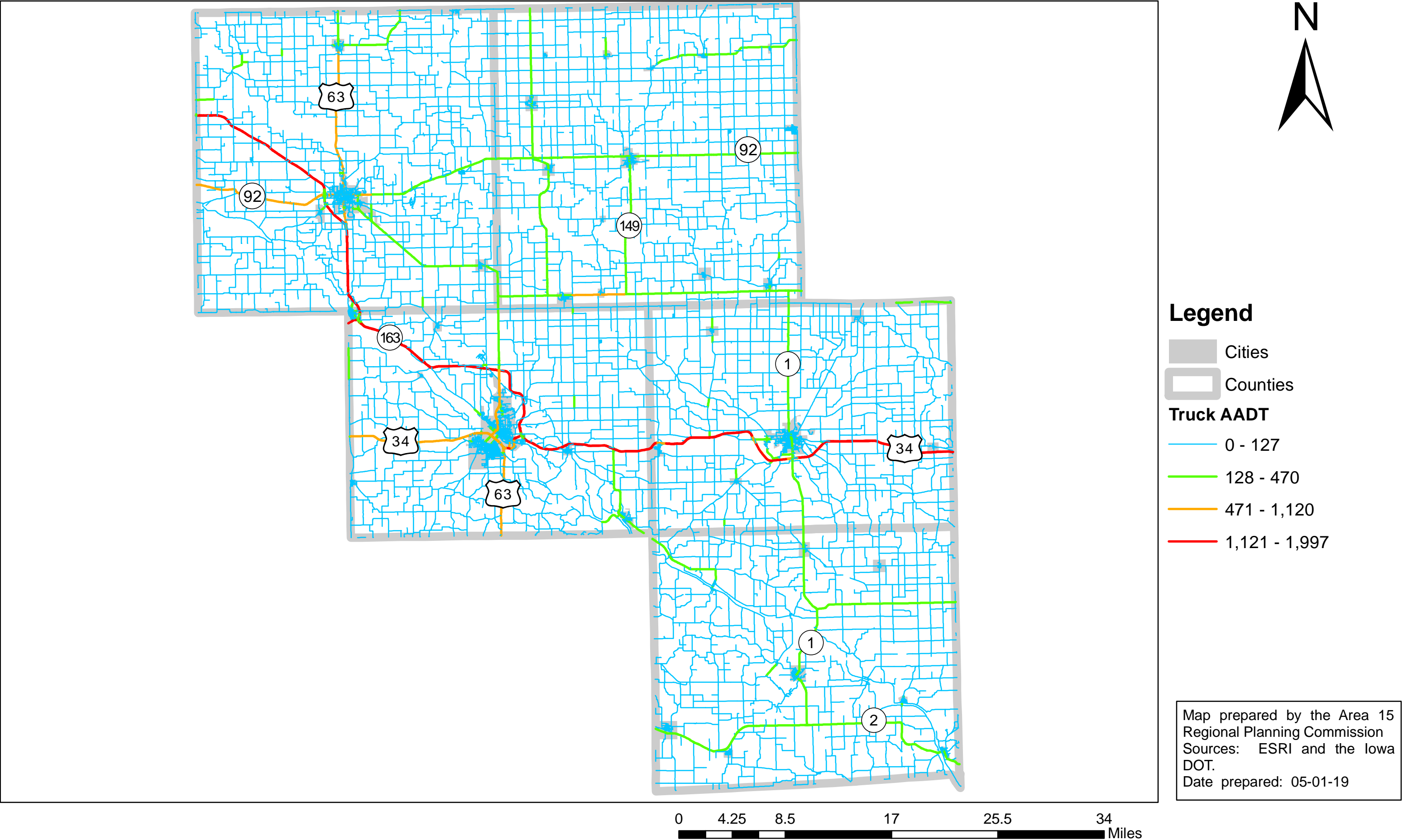
Map 4.13: 2013 Pavement Conditions of Jefferson County Roads

N

Pleasant Plain

Packwood

1

34

Fairfield

Batavia

Lockridge

Libertyville

1

0   2   4   8   12   16
Miles

Fairfield

1

34

Legend

Cities

Counties

Pavement Condition Index

0 - 20

21 - 40

41 - 60

61 - 80

81 - 100

Map prepared by the Area 15
Regional Planning Commission
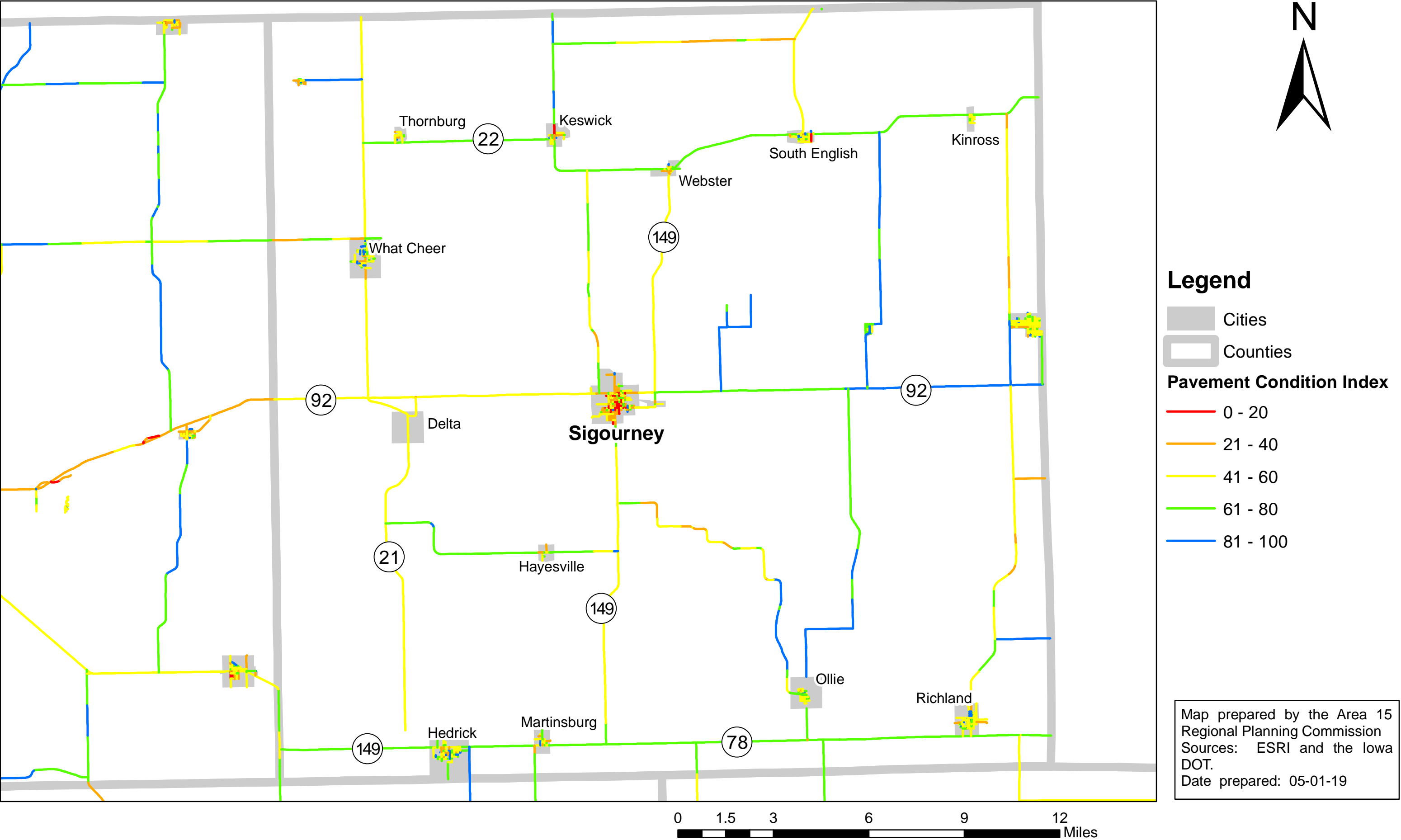Sources: ESRI and the Iowa
DOT.
Date prepared: 11-07-18
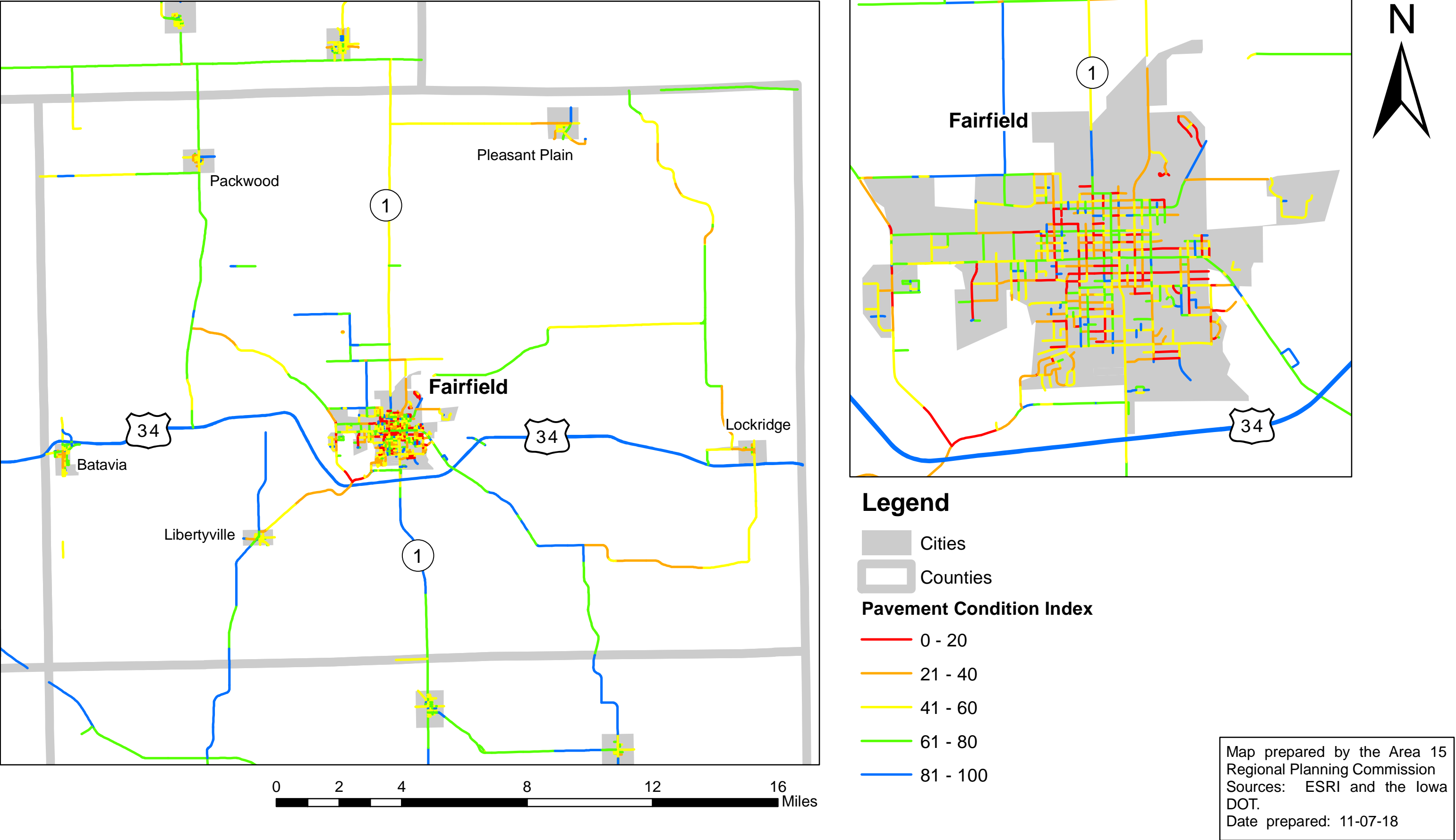
Map 4.14: 2013 Pavement Conditions of Keokuk County Roads

N

Thornburg
22
Keswick
Kinross
South English
Webster
149
What Cheer
92
Delta
92
Sigourney
21
Hayesville
149
Ollie
Richland
Hedrick
Martinsburg
149
78

Legend

Cities

Counties

Pavement Condition Index
0 - 20
21 - 40
41 - 60
61 - 80
81 - 100

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 05-01-19

0   1.5   3   6   9   12
Miles

Map 4.15: 2013 Pavement Conditions of Mahaska County Roads

N

Barnes City

New Sharon

63

163

Leighton

Oskaloosa

92

92

University Park

Beacon

163

23

Rose Hill

Fremont

Oskaloosa (inset)

63

Oskaloosa

92

University Park

163

23

Beacon

0   2   4   8   12   16 Miles

Legend

Cities

Counties

Pavement Condition Index

— 0 - 20

— 21 - 40
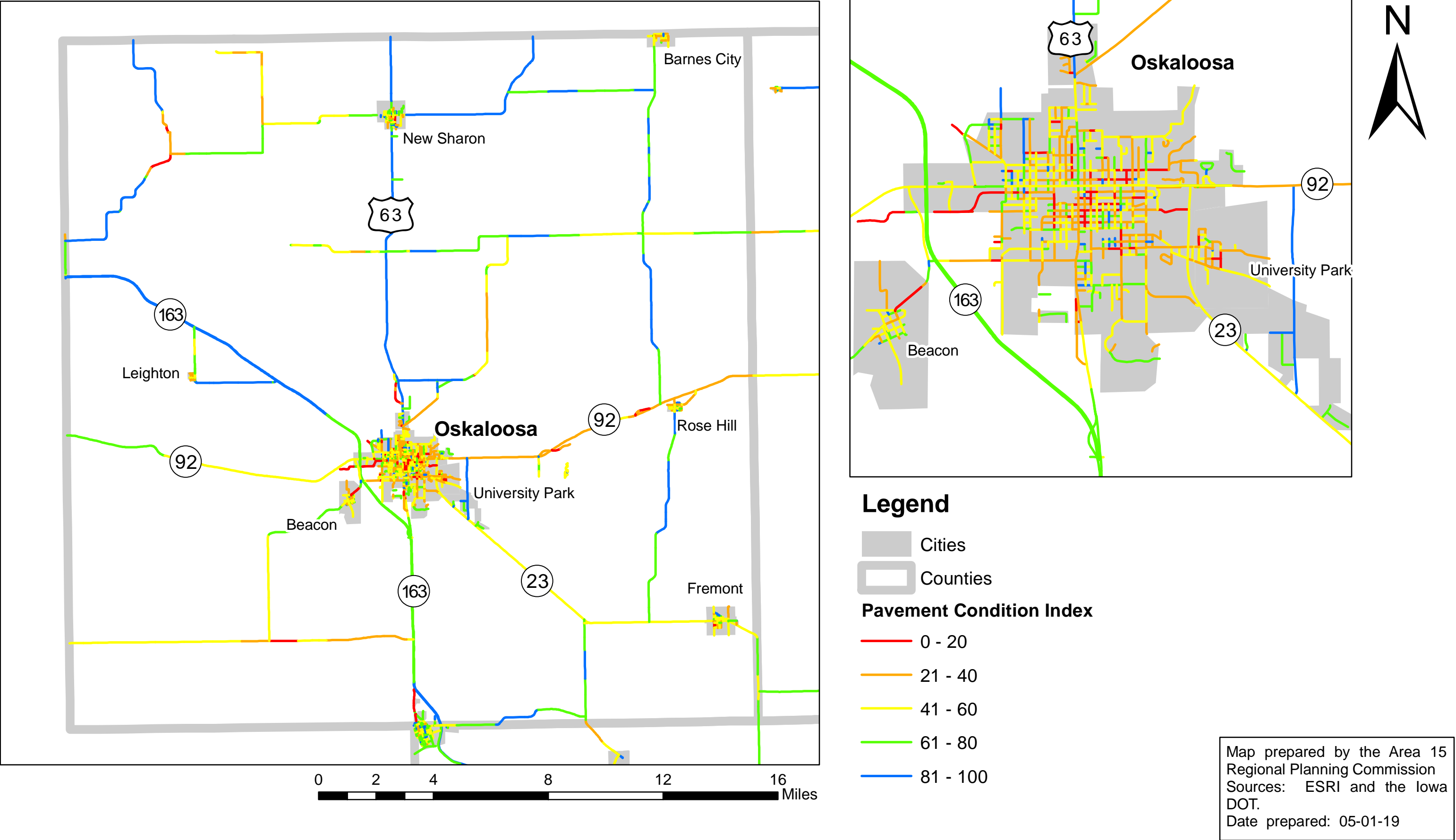
— 41 - 60

— 61 - 80

— 81 - 100

Map 4.16: 2013 Pavement Conditions of Van Buren County Roads

N

Birmingham

Stockport

16

1

Keosauqua

Bonaparte

1

Milton

2

2

Cantril
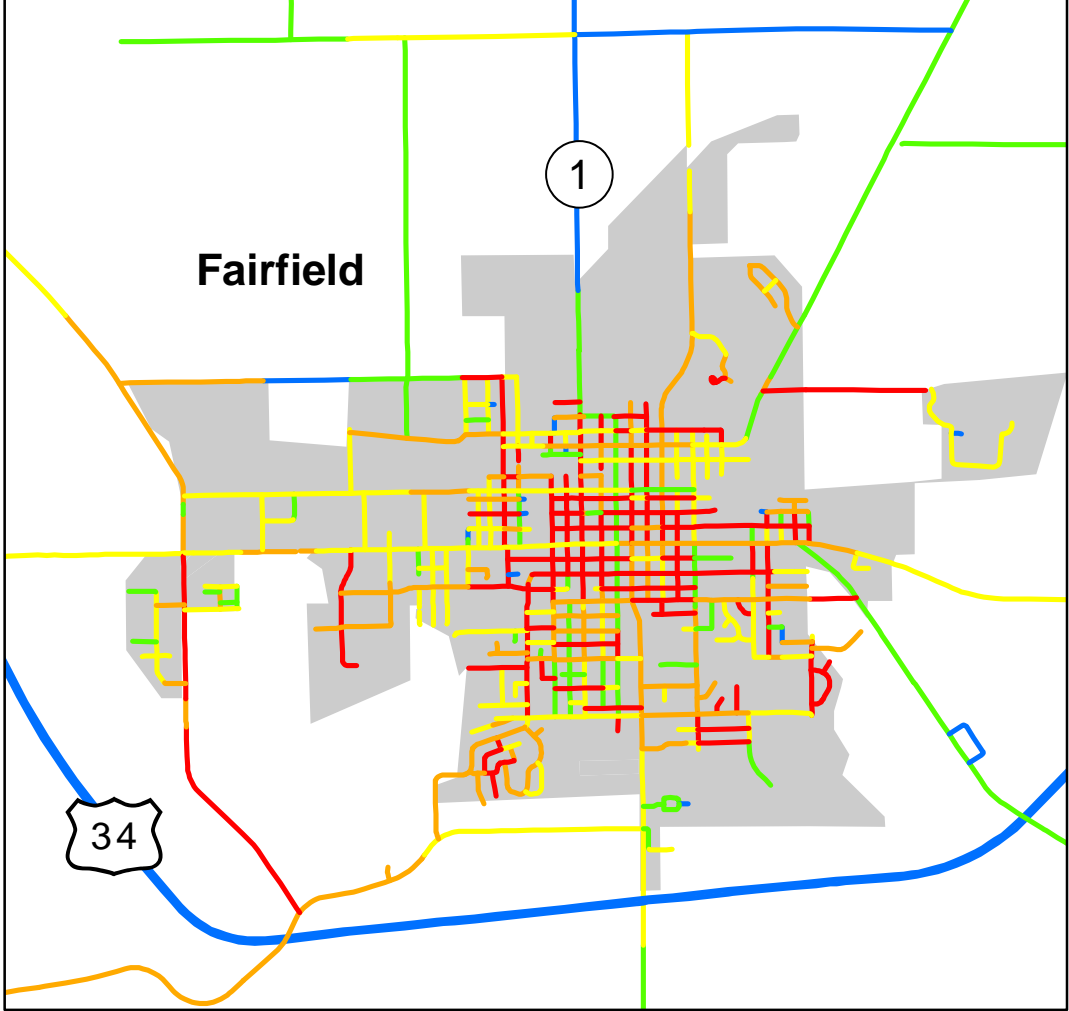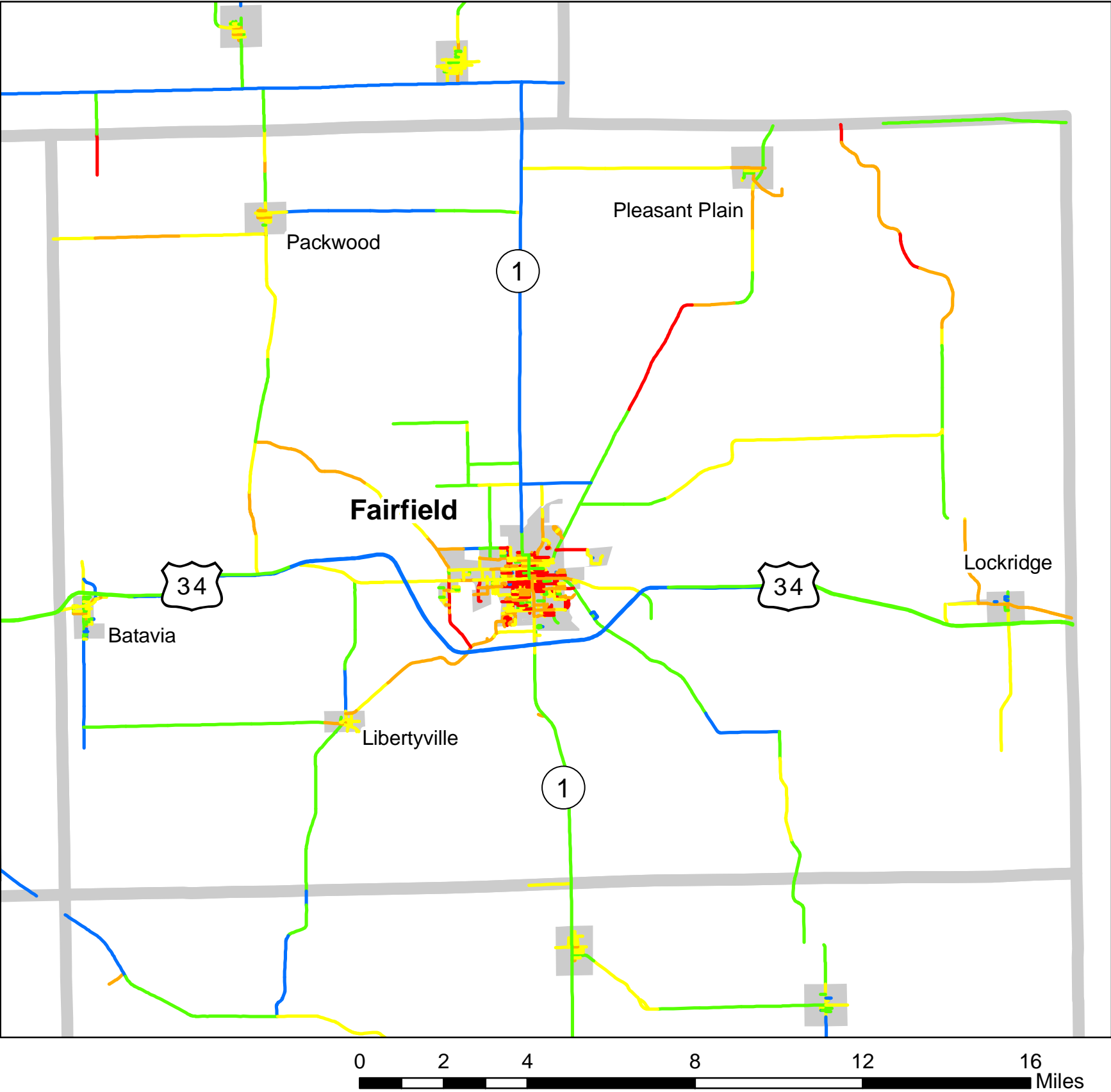
Farmington

Legend

Cities

Counties

Pavement Condition Index

—— 0 - 20

—— 21 - 40

—— 41 - 60

—— 61 - 80

—— 81 - 100

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 05-02-19

0   1.5   3   6   9   12
Miles
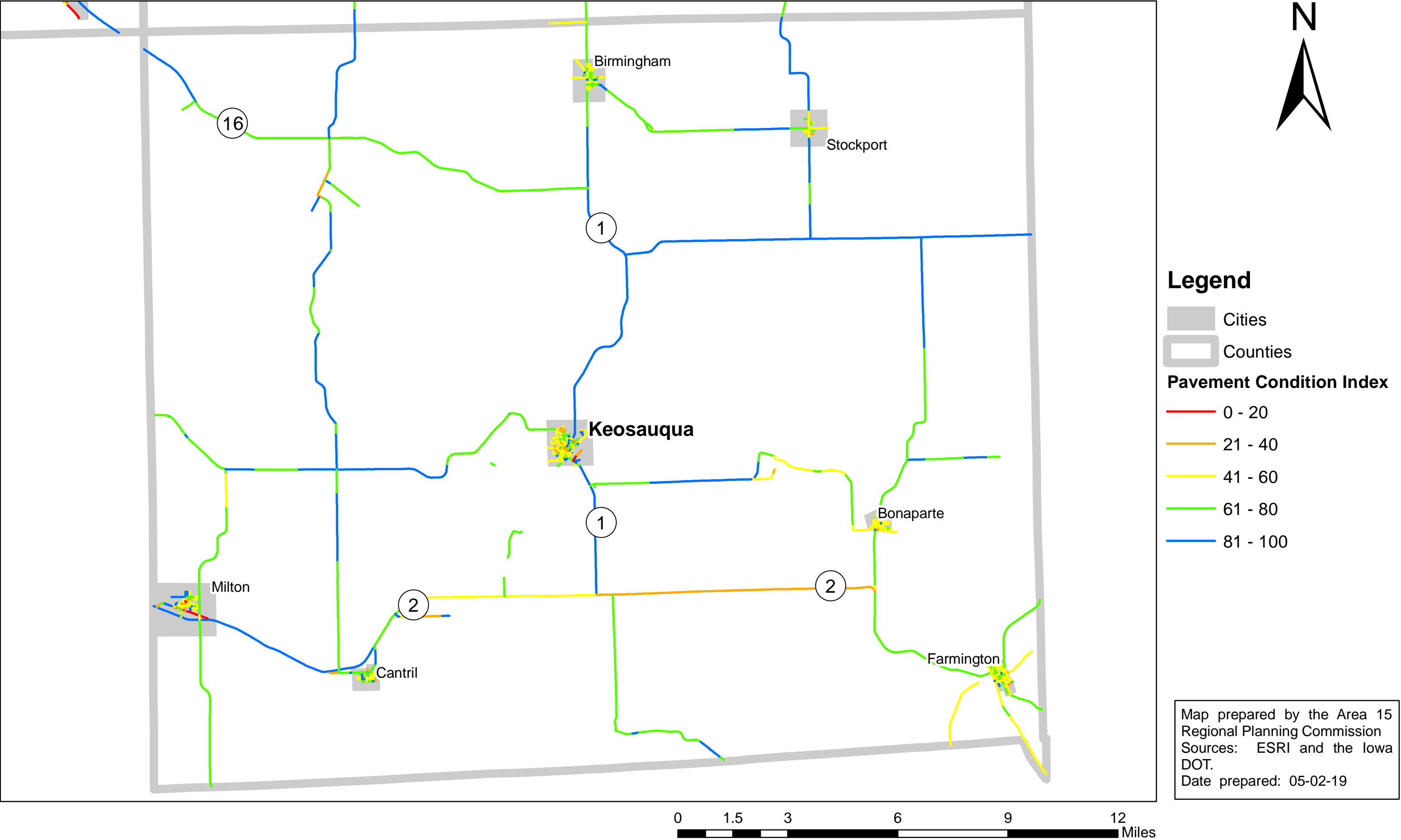
Map 4:17: 2013 Pavement Conditions of Wapello County Roads
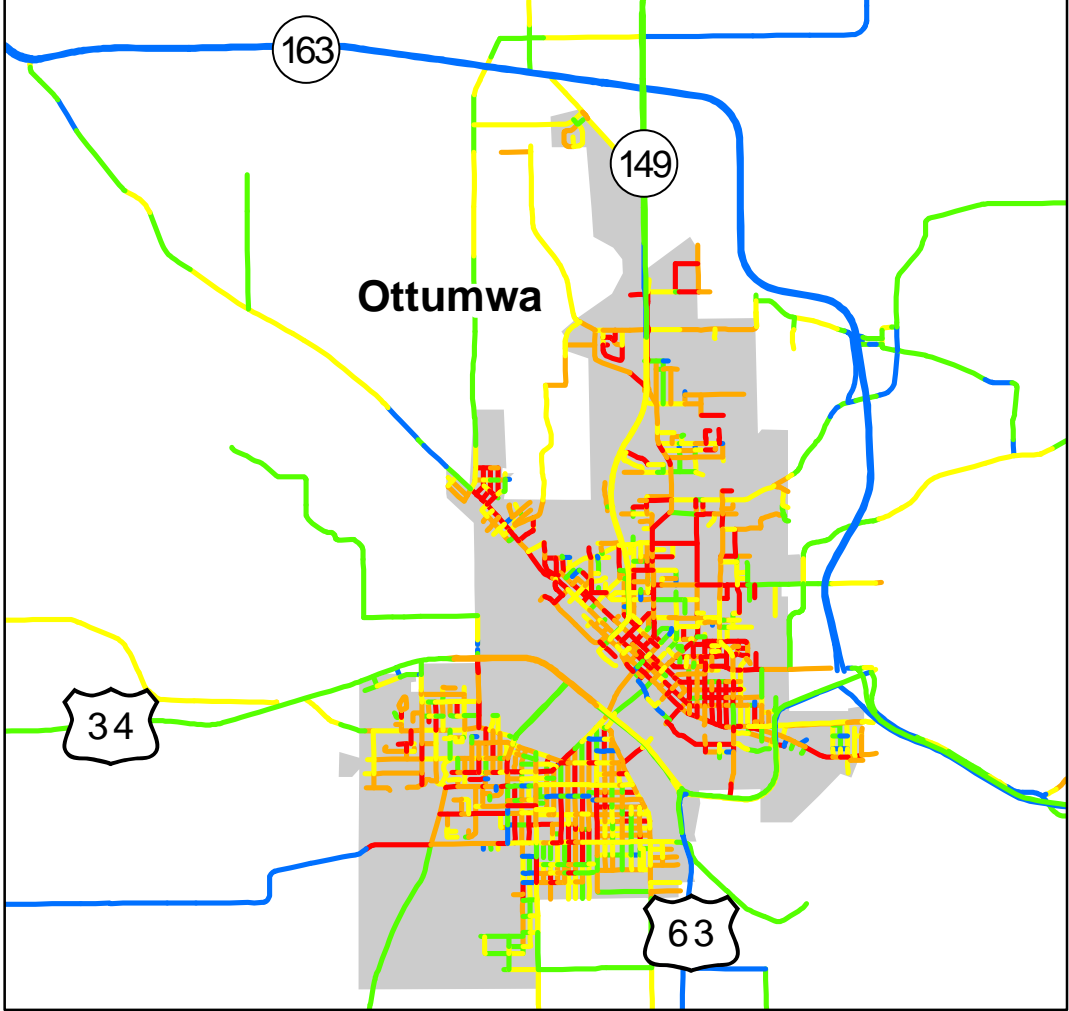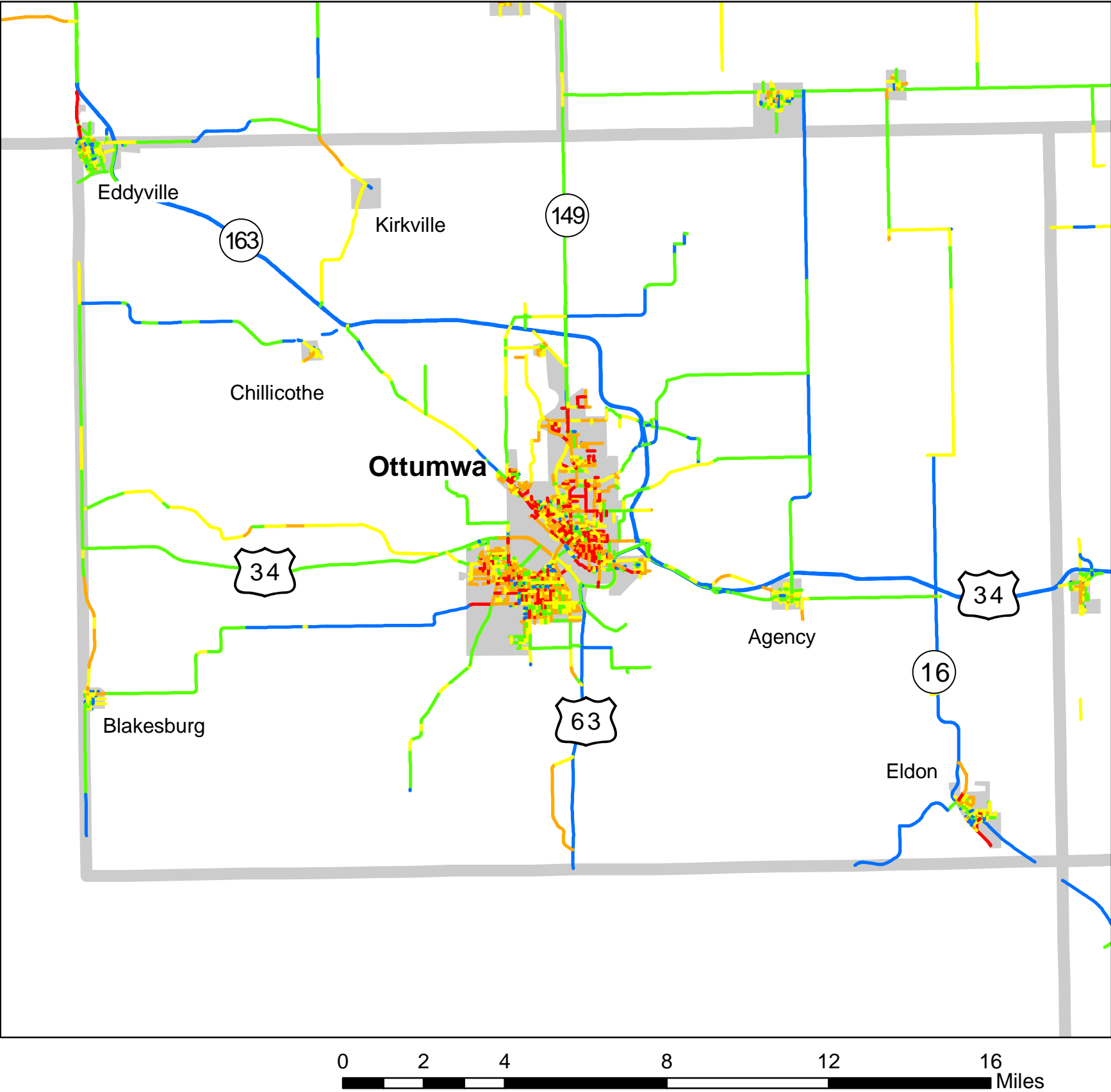
Eddyville

Kirkville

163

149

Chillicothe

Ottumwa

34

Agency

16

63

Blakesburg

Eldon

Ottumwa

163

149

34

63

N

Legend

Cities

Counties

Pavement Condition Index

— 0 - 20

— 21 - 40

— 41 - 60

— 61 - 80

— 81 - 100

0 2 4 8 12 16
Miles

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 05-02-19

Map 4.18: 2017 Pavement Conditions of Jefferson County Roads

Fairfield

Packwood

Pleasant Plain

Fairfield

Lockridge

Batavia

Libertyville

0   2   4   8   12   16
Miles

Legend

Cities

Counties

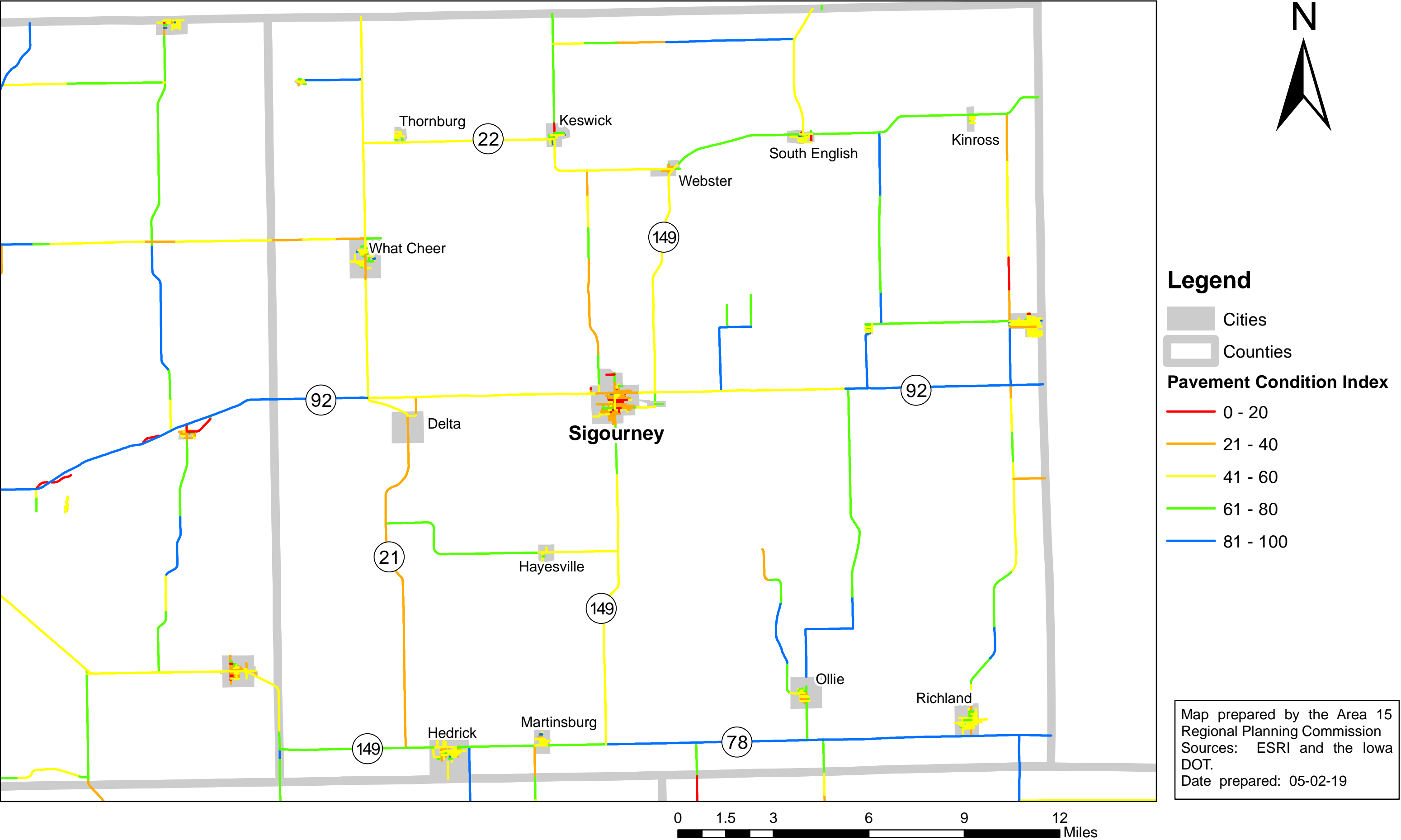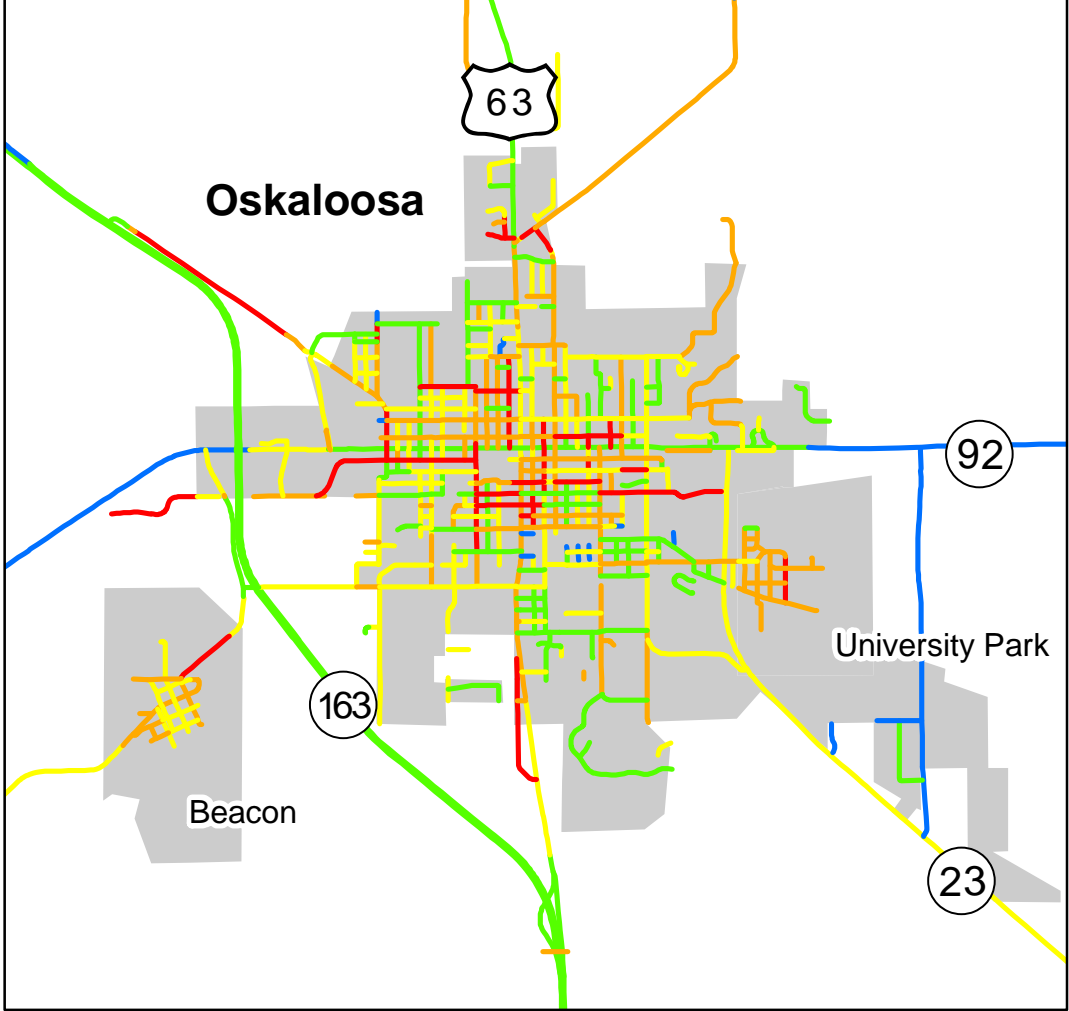**Pavement Condition Index**

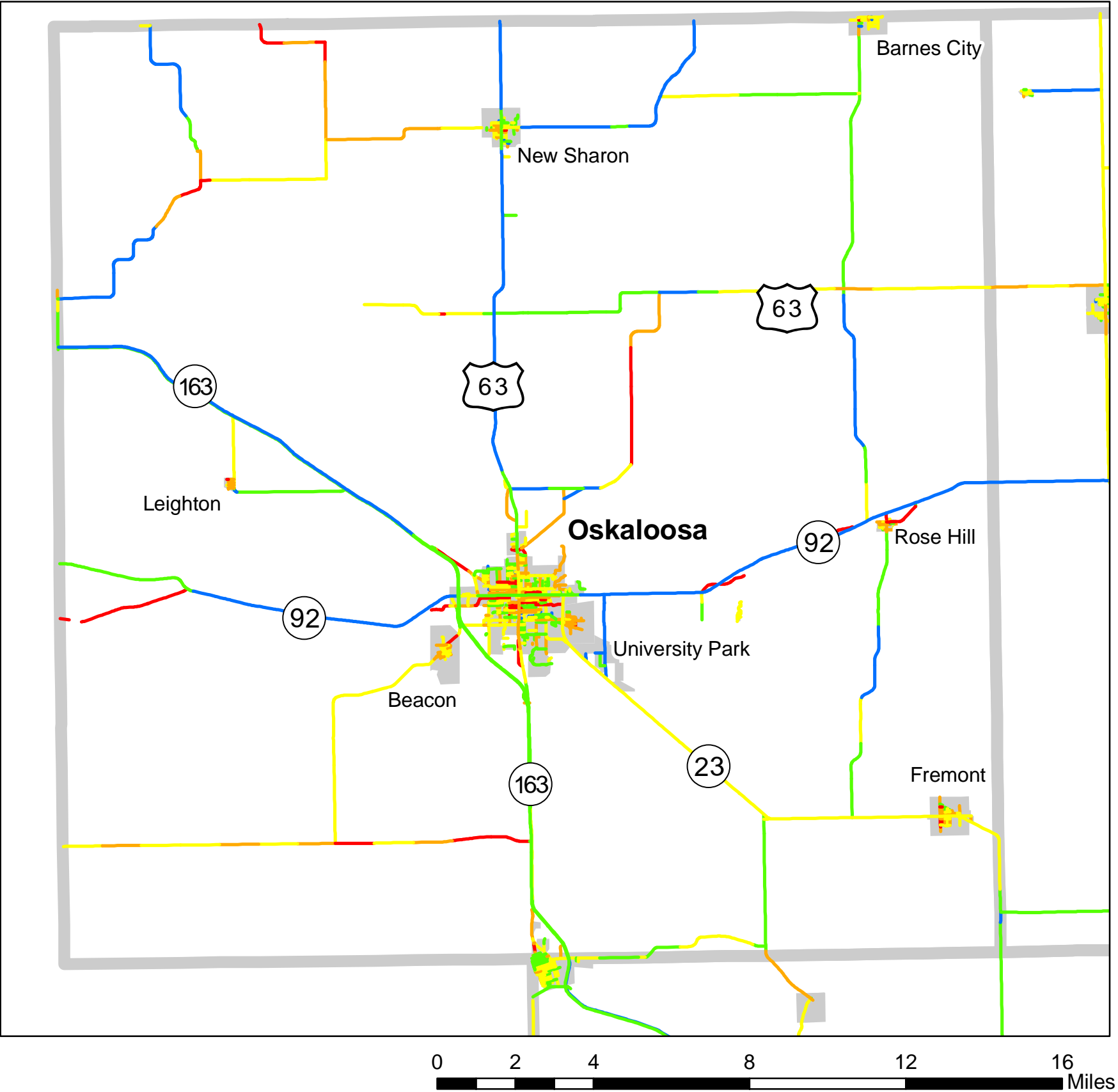0 - 20

21 - 40

41 - 60

61 - 80

81 - 100

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 05-02-19

Map 4.19: 2017 Pavement Conditions of Keokuk County Roads

N

Thornburg

22

Keswick

South English

Kinross

Webster

149

What Cheer

92

92

Delta

Sigourney

21

Hayesville

149

Ollie

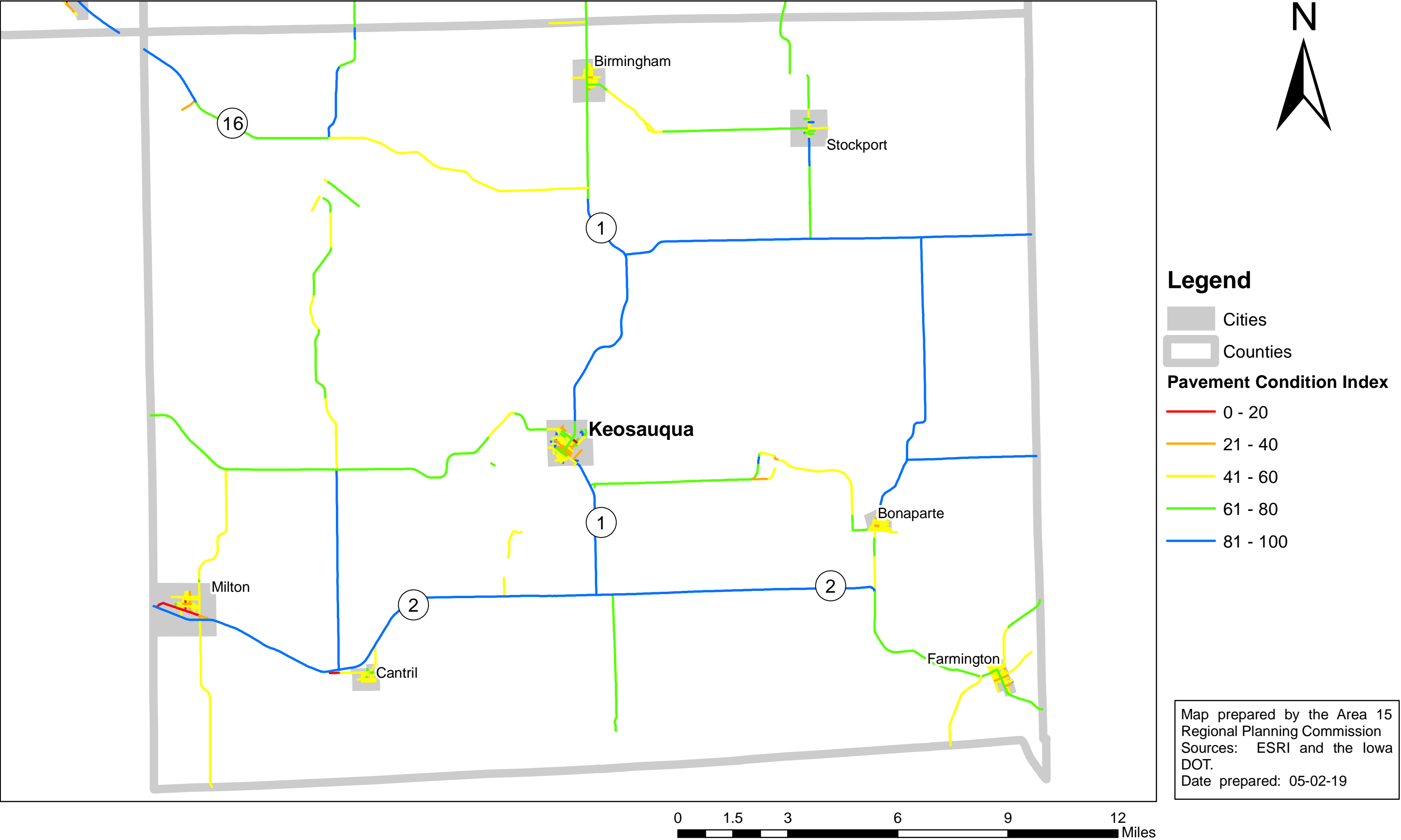Richland

Hedrick

Martinsburg

78

149

Legend

Cities

Counties

Pavement Condition Index

- 0 - 20
- 21 - 40
- 41 - 60
- 61 - 80
- 81 - 100

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 05-02-19

| 0 | 1.5 | 3 | 6 | 9 | 12 |

Miles

Map 4.20: 2017 Pavement Conditions of Mahaska County Roads

Barnes City

New Sharon

Leighton

Oskaloosa

Rose Hill

University Park

Beacon

Fremont

N

Legend

Cities

Counties

Pavement Condition Index

0 - 20

21 - 40

41 - 60

61 - 80

81 - 100

0   2   4   8   12   16
Miles

Map 4.21: 2017 Pavement Conditions of Van Buren County Roads

N

Birmingham

16

Stockport

1

Keosauqua

Bonaparte

1

Milton

2

2

Cantril

Farmington

Legend
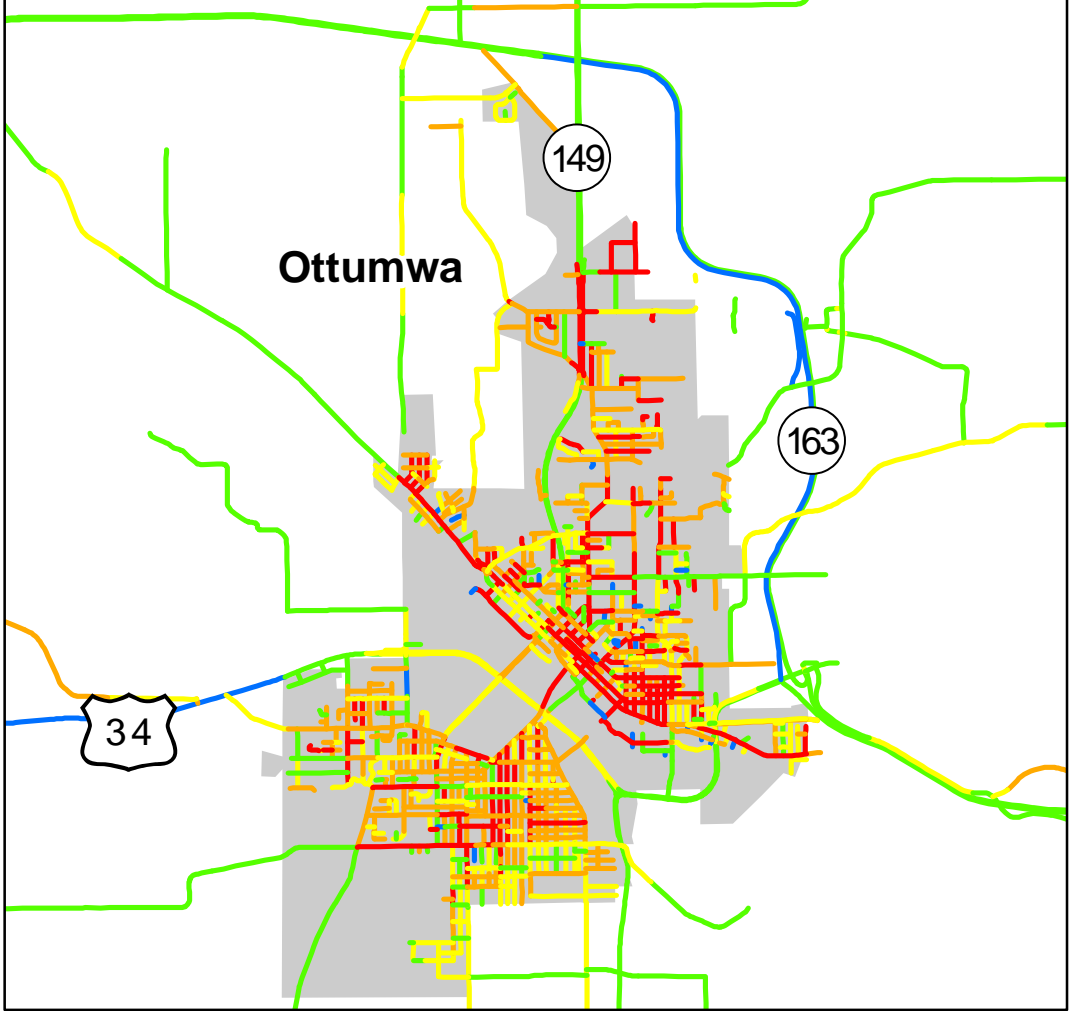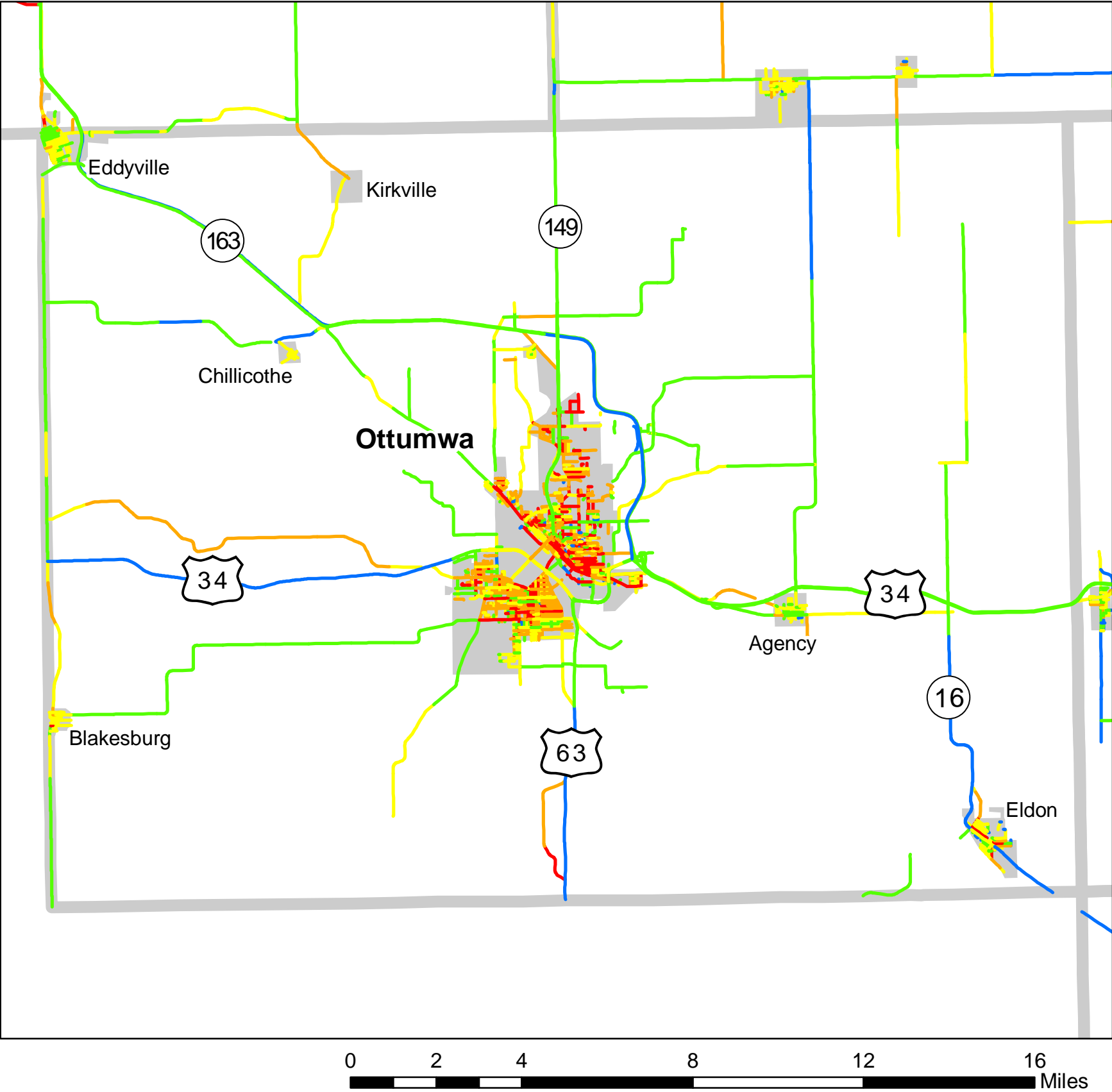
Cities

Counties

Pavement Condition Index

— 0 - 20

— 21 - 40

— 41 - 60

— 61 - 80

— 81 - 100

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 05-02-19

| 0 | 1.5 | 3 | 6 | 9 | 12 |

Miles

Map 4.22: 2017 Pavement Conditions of Wapello County Roads

Ottumwa

Eddyville

Kirkville

163

149

Chillicothe

Ottumwa

34

Agency

34

Blakesburg

16

63

Eldon

Legend

Cities

Counties

Pavement Condition Index

0 - 20

21 - 40

41 - 60

61 - 80

81 - 100

N

0   2   4   8   12   16
Miles

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 05-02-19

Map 4.23: Road and Bridge Projects within the Next Five Years

N

Legend

— Streets

☐ Counties

▨ City Limits

Funding Source

- ● HSIP
- ● NHPP
- ● PRF
- ● STBG
- ● STBG-HBP
- ● SWAP-HBP
- ● SWAP-STBG

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 05-02-19

0   4.5   9   18   27   36
Miles
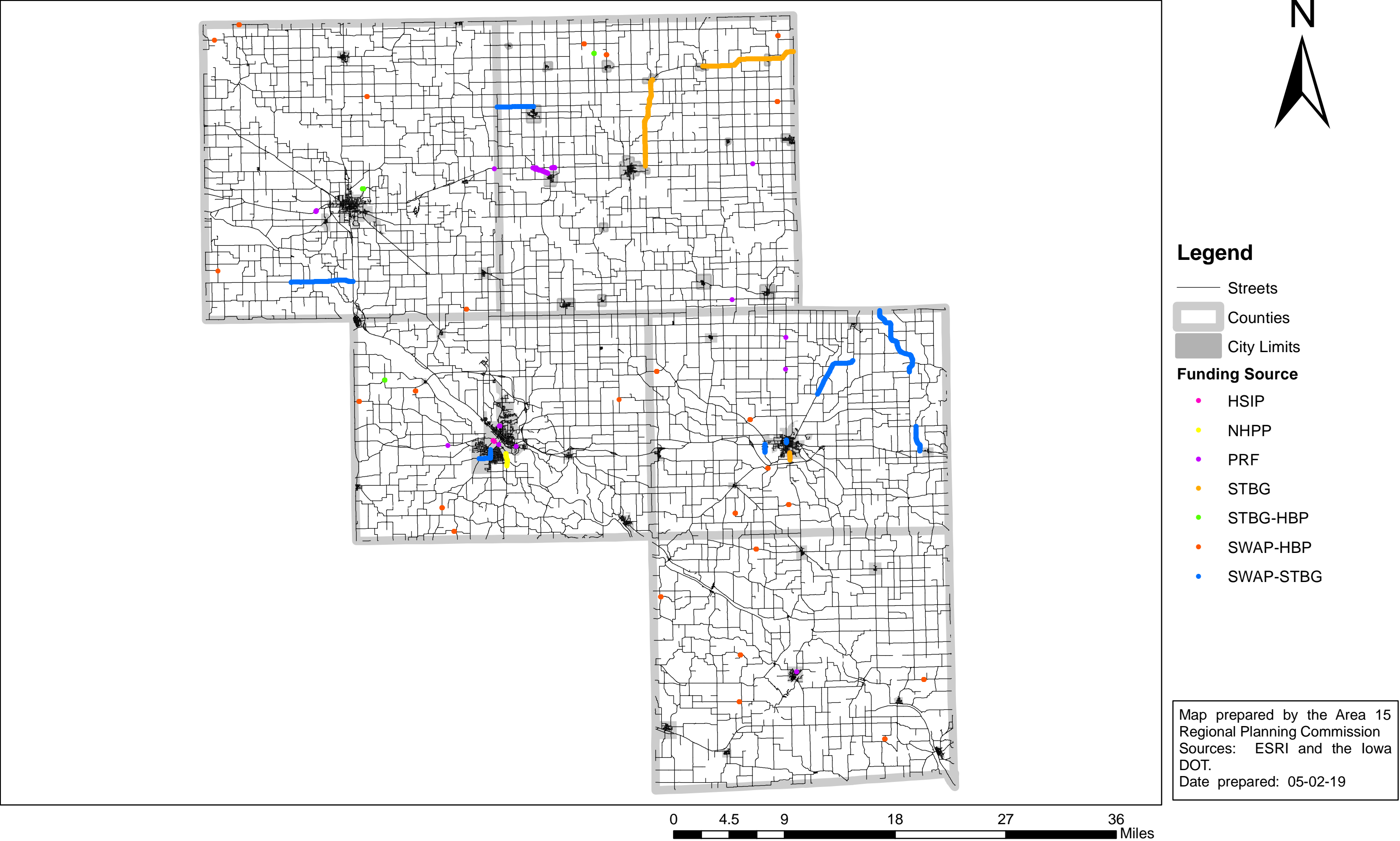
Chapter 5: Passenger Transportation Providers

There are thirty-four organizations that provide passenger transportation services within Regional Planning Affiliation 15. This includes three providers of long-distance intercity transportation, two public transit agencies, two private taxicab companies, ten health and human service agencies, and seventeen school districts. Figure 5.1 summarizes the services provided by the public and private transit organizations and the health and human service agencies. The information on the table includes; type of service provided, eligibility requirements for service, hours and days available, approximate annual miles, and the number and type of vehicles operated. Map 5.1 shows the location of the passenger transportation providers identified. A table containing information on the school districts can be found later in this section.

Figure 5.1: Passenger Transportation Providers					
Provider	Service Type	Eligibility	Hours	Miles	Vehicles
AMTRAK	I, FR	A	AA	n	x
Greyhound	I, FR, T	A	AA	n	x
Burlington Trailways	FR, T	A	AA	3,700,000	35BL, 3B
Carlenrose Corp (Ottumwa Cab)	I, FR, DR	A, CT	AA	750,000	2VL, 2V, 6C
R & B Taxi	DR	A	WD, WE, D, E, N	55,000	2V
Ottumwa Transit	FR, DR, P	A, M	WD, D, E	265,000	10BL, 4VL
10-15 Transit	FR, DR, P	A, M	WD, WE, D, E	1,375,000	37BL, 10VL, 2C
Jefferson Co Health Center	DR	CL, M	WD, D	36,000	2VL
ADDS	DR	CL, F	WD, D	5,000	1V
Country Life Health Care	DR	CL	V	35,000	1V, 1C
Crisis Center	DR	CL	V	17,000	2V
Tenco	DR	CL	V	n	2VL, 15V, 3C
Ottumwa Job Corps	DR	CL	WD, WE, D, E, N	n	14 vehicles
Ottumwa Residential Facility	DR	CL	AA	5,000	1V, 2C
Penn Pl & Sylvan Woods	DR	CL	WD, D	n	1BL, 1v
First Resources	DR	CL, I	V	n	2VL
Love INC	DR	CL, I	WD, D	1,000	n
Key: Service Type- I=Intercity, DR=Demand Responsive, FR=Fixed Route, CT=Client Transportation,					
T=Charter/Tours, P=Paratransit					
Eligibility - A=Anyone, C=Client, I=Income requirement, M=Medical requirement					
Hours - AA=all hours, all days, WD=weekdays, WE=weekends, D=daytime, E=evening, N= night, V=varies					
Vehicles - B-bus, BL- Bus w/lift, C-Car, V-Van, VL-Van w/lift					
Other - x=not applicable, n=not provided/not known					

Intercity rail transportation is provided by AMTRAK, which has a station in Ottumwa. AMTRAK operates the California Zephyr through the region, which runs from Chicago, Illinois to Oakland, California and includes stops in Omaha, Denver, and Salt Lake City. The AMTRAK station in Ottumwa is served by two passenger trains each day, an

eastbound train to Chicago which stops at 9:09am, and a westbound train to Oakland which stops at 6:53pm. Connections to other AMTRAK routes can be made in Chicago and Sacramento, allowing passengers to reach any destination AMTRAK serves.

Greyhound Lines provides intercity bus transportation to cities in the United States, Canada, and Mexico. Within the region, Greyhound provides service by partnering with Burlington Trailways. From the Burlington Trailways two stops within the region, passengers can travel to approximately 3,800 cities in North America that Greyhound provides service to. Greyhound also provides charter services to groups and organizations. Greyhound Lines operates twenty-four hours a day, seven days a week. The bus service operates 1,200 buses and averages over 5 billion miles per year.

Burlington Trailways provides intercity bus transportation to cities in Iowa, Colorado, Illinois, Indiana, Missouri, and Nebraska. This is provided through regularly scheduled daily stops in both Fairfield and Ottumwa as shown in Figure 5.2. From both of these cities, passengers can travel to the six other states Burlington Trailways provides service to. In addition, passengers can travel to other cities across the United States by transferring to other Trailways or to Jefferson or Greyhound bus services. Burlington Trailways also provides charter services to groups and organizations as well as escorted tours for the public. Burlington Trailways operates thirty-eight buses on its routes, and thirty-five of the buses are equipped with lifts. The bus service operates twenty-four hours a day, seven days a week, and averages approximately 3.7 million miles per year.

Figure 5.2: Burlington Trailways Daily Departure Times		
	Eastbound	Westbound
Fairfield	3:25pm	10:30am
Ottumwa	4:05pm	10:00am
Source: Burlington Trailways		
www.burlingtontrailways.com, Retrieved: 1/21/2019		

The Carlenrose Corporation/Ottumwa Cab provides passenger transportation services to the City of Ottumwa and surrounding counties. Trips can be provided to locations anywhere in Iowa or to neighboring states.   and can provide transportation to locations anywhere in the State of Iowa or neighboring States. Carlenrose/Ottumwa Cab also provides non-emergency medical transportation. In addition, it contracts with several organizations for their transportation needs. Carlenrose/Ottumwa Cab operates a total of ten vehicles; two minivans with lifts, two minivans, and four cars. Transportation is available twenty-four hours a day, seven days a week, and the company averages 750,000 miles per year.

R & B Taxi provides taxicab services to the City of Ottumwa and the surrounding area, its taxis can provide transportation to locations anywhere within the state. R & B Taxi provides transportation to both passengers who call in and request a ride, and service that is contracted or scheduled ahead of time. R & B Taxi operates two minivans and averages about 55,000 miles per year. Service is available during the following hours; Monday through Thursday 7am until 12midnight, Friday and Saturday 7am until 2am, and Sunday 9am until 9pm.

10-15 Regional Transportation Authority provides service in ten counties in southeast Iowa, including the five counties that make up RPA 15. The counties served by 10-15 RTA include: Appanoose, Davis, Jefferson, Keokuk, Lucas, Mahaska, Monroe, Van Buren, Wapello, and Wayne. Service is demand responsive, with the transit vehicle taking the rider from their point of origin to their destination and back if needed. 10-15's services are available to riders Monday through Saturday between the hours of 6am and 6pm. Service outside of this time may be provided if a driver and vehicle are available. 10-15 RTA also works several health and human service agencies within the region to operate transportation services for clients of those organizations. The hours and amount of service provided to the health and human service agencies vary depending upon the needs of the organization and its clients. Service is provided by two medium duty buses equipped with lifts, thirty-five light duty buses equipped with lifts, ten mini vans equipped with lifts, and two sedans. The medium duty buses can carry thirty passengers and the light duty buses can transport sixteen to twenty. 10-15's vehicles accumulate approximately 1,375,000 miles per year.

10-15 RTA is rebranding its image by having all of its vehicles, except for Oskaloosa Rides, in a burnt orange color scheme.

In addition to demand response service provided throughout the 10 county region, 10-15 RTA also provides fixed route service and paratransit in the City of Oskaloosa called "Oskaloosa Rides." This service consists of a single fixed route that makes a one hour circuit through Oskaloosa and stops at shopping centers, health and human service agencies, and residential areas. Also available is paratransit service for people who have a disability that may prevent them from accessing the fixed route. An application

must be completed and approved in advance before paratransit service can be used. Oskaloosa Rides operates on Monday, Wednesday, and Friday between the hours of 9am and 5:30pm. Map 5.2 shows the Oskaloosa Rides route.

Ottumwa Transit provides service in the city of Ottumwa and provides rides Monday through Friday between 6am and 6pm. This service includes five fixed routes and paratransit service. Each of the fixed routes cover a specific geographic area of Ottumwa with transfers between the routes possible at the downtown bus zone. Map 5.3 shows all of Ottumwa Transit's routes. Paratransit service is available to riders who have a disability and may not be able to access the bus stops. Paratransit service will take riders from their point of origin to their destination and back. Before paratransit can be used, an application must be completed and approved. Transit services are provided by nine medium duty buses with lifts, one light duty bus with a lift, and four minivans with ramps. The medium duty buses can transport thirty-two passengers and the light duty can carry 16 passengers. Ottumwa Transit averages 265,000 miles per year in providing transportation services.

Ottumwa Transit has several different color designs for its buses and vans.

Ten health and human service agencies within the region provide transportation to their clients. These ten agencies, shown in figure 5.1, are: Jefferson County Health Center, Alcohol and Drug Dependency Services, Country Life Health Care, the Ottumwa Crisis Center, Tenco, Ottumwa Job Corps, Ottumwa Residential Facility, Pennsylvania Place/Sylvan Woods, First Resources, and Love Inc. Eligibility for transportation through these agencies is limited to people who are receiving services from the agency. Several of the HHS agencies also have income or medical requirements in order that must be met for their transportation services. Transportation services available from these agencies may be limited, either by the hours of operation or the number and size of vehicles, and unable
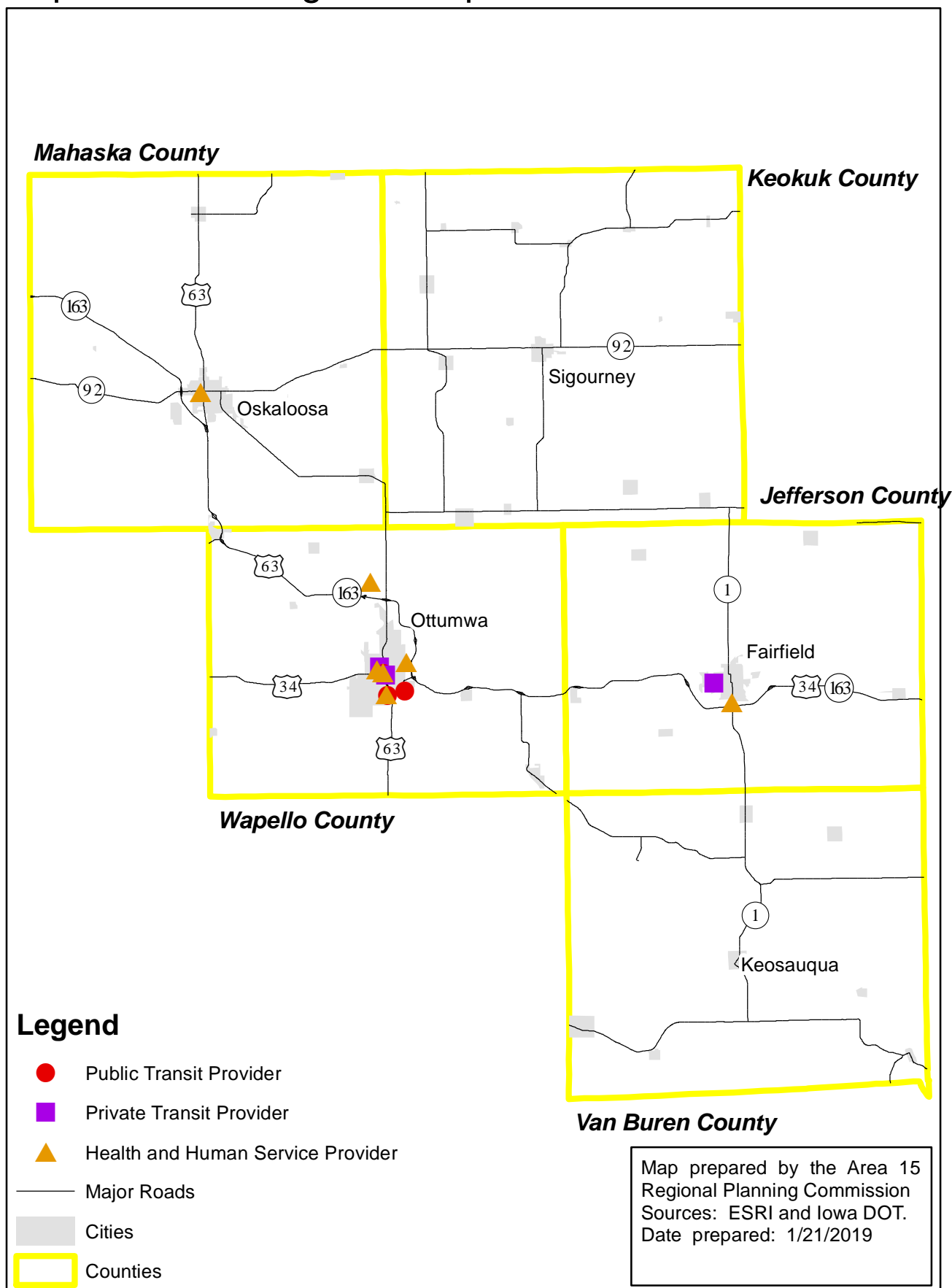
to provide rides to all of their clients who may need it. As a result, these agencies may also work with or direct their clients to public providers or private taxi companies for transportation to their facilities.

In addition to the organizations identified in figure 5.1, there are seventeen school districts in the region that provide transportation to their students. According to the Iowa Department of Education, these districts operate 310 buses and 103 smaller vehicles to transport students to and from school. Figure 5.3 shows the number of vehicles operated by each district that serves the five-county region. Some of the districts may have a low number of vehicles for their size, this is because they contract with another company to provide student transportation. All of the school districts were contacted and asked to identify the number of vehicles operated transporting students that were equipped with wheelchair lifts. This information is also shown in figure 5.3 for the districts that responded. School district vehicles are used only for the transportation of students and staff to school and school related activities.
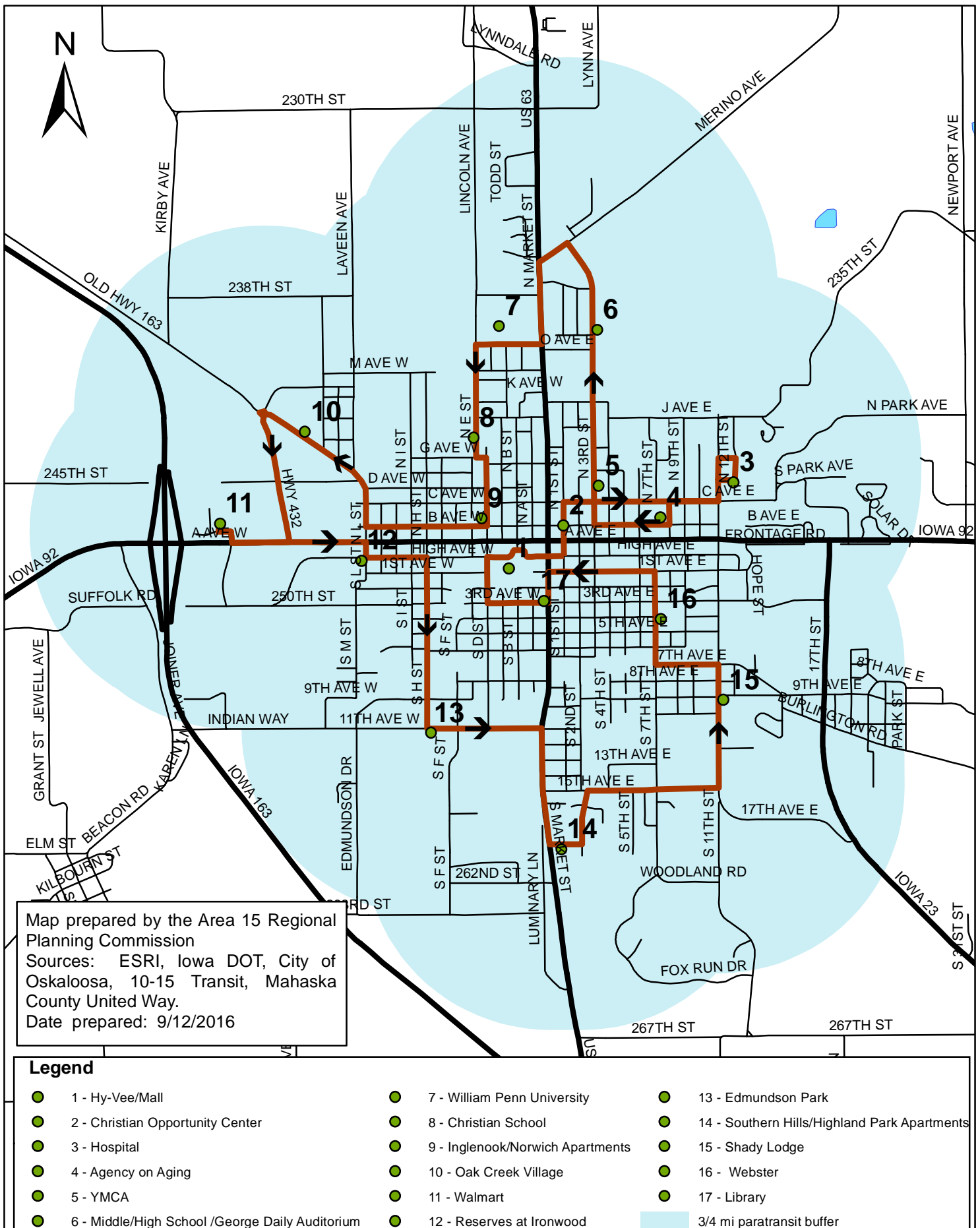
Figure 5.3: School District Transportation			
School District	Buses	Smaller Vehicles	Vehicles w/ lifts
Pella	39	5	2
Twin Cedars	10	7	n
Oskaloosa	32	10	n
North Mahaska	10	5	1
Ottumwa	29	2	3
Tri-County	9	5	n
English Valleys	11	7	2
Sigourney	8	5	0
Keota	7	4	n
Eddyville-Blakesburg	22	11	2
Pekin	21	0	0
Cardinal	14	12	2
Fairfield	30	5	2
Washington	18	18	2
Van Buren	20	6	1
Harmony	7	4	n
Central Lee	14	3	1

Map 5.1: Passenger Transportation Provider Locations

Mahaska County

Keokuk County

Jefferson County

Wapello County

Van Buren County

163

63

92

Oskaloosa

92

Sigourney

63

163

Ottumwa

34

63

1

Fairfield

34 163

1

Keosauqua

Legend

🔴 Public Transit Provider

🟪 Private Transit Provider

🔺 Health and Human Service Provider

── Major Roads

⬜ Cities

▭ Counties

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and Iowa DOT.
Date prepared: 1/21/2019

Map 5.2: Oskaloosa Rides - Provided by 10-15 Regional Transit

N

230TH ST

LYNNDALE RD
LYNN AVE
MERINO AVE
NEWPORT AVE
US 63
235TH ST

KIRBY AVE
LAVEEN AVE
LINCOLN AVE
TODD ST
N MARKET ST

OLD HWY 163
238TH ST

7

6

O AVE E

M AVE W
K AVE W

N PARK AVE

245TH ST
10
N E ST
8
G AVE W
N B ST
N 3RD ST
J AVE E
N 7TH ST
N 9TH ST
N 12TH S
S PARK AVE
3

HWY 432
D AVE W
C AVE W
N A ST
5
C AVE E
SOLAR DR

11
N ST
B AVE W
9
2
4
B AVE E
FRONTAGE RD
IOWA 92

A AVE W
S 8TH N ST
12
A AVE E
HIGH AVE E

IOWA 92
1ST AVE W
HIGH AVE W
1
1ST AVE E
HOPE ST
17TH ST

SUFFOLK RD
S 1 ST
3RD AVE W
7
3RD AVE E
16
8TH AVE E

JOINER AVE
S M ST
250TH ST
S F ST
S D S
S B ST
5TH AVE E
9TH AVE E

GRANT ST
JEWELL AVE
9TH AVE W
S 4TH ST
S 7TH ST
7TH AVE E
S 11TH ST
15
PARK ST

INDIAN WAY
S H ST
11TH AVE W
13
8TH AVE E

EDMUNDSON DR
S F ST
S 2ND ST
13TH AVE E
S 5TH ST
BURLINGTON RD

IOWA 163
15TH AVE E
17TH AVE E

KAREN LN
BEACON RD
S MARKET ST
14
WOODLAND RD
IOWA 23

ELM ST
S F ST
262ND ST
LUMINARY LN
S 1ST ST
S 3

KILBOURN ST
263RD ST
FOX RUN DR

Map prepared by the Area 15 Regional
Planning Commission
Sources: ESRI, Iowa DOT, City of
Oskaloosa, 10-15 Transit, Mahaska
County United Way.
Date prepared: 9/12/2016

267TH ST
267TH ST

Legend

- 1 - Hy-Vee/Mall
- 2 - Christian Opportunity Center
- 3 - Hospital
- 4 - Agency on Aging
- 5 - YMCA
- 6 - Middle/High School /George Daily Auditorium

- 7 - William Penn University
- 8 - Christian School
- 9 - Inglenook/Norwich Apartments
- 10 - Oak Creek Village
- 11 - Walmart
- 12 - Reserves at Ironwood

- 13 - Edmundson Park
- 14 - Southern Hills/Highland Park Apartments
- 15 - Shady Lodge
- 16 - Webster
- 17 - Library
- 3/4 mi paratransit buffer

OTTUMWA Transit

Bus Routes

- **North #1**
- **East/West #2**
- **South Residential #3**
- **South Commercial #4**
- **Airport #7**

Ottumwa Transit
641-683-0695 • www.ottumwatransit.com
Revised March 2014
Design by Liz Howard Graphics

N

To the Airport

ORF
OSAGE DR
PAWNEE DR
FOX-SAUK RD
120 TH AVE
63
ANGLE RD
118TH AVE

DMV
Motels
E ROCHESTER ST

Eisenhower
BONITA AVE

CLEARVIEW
Restaurants
ELMDALE AVE

Hy-Vee
CARTER AVE
GRANDVIEW AVE
IHCC

W GOLF AVE
E ALTA VISTA AVE
US 63

Horace Mann
PIKE RD
N ELM ST
N JEFFERSON ST

James
US 63

H
ORHC
Westgate Towers
W 2ND ST
PENNSYLVANIA AVE
100TH ST

Tenco
MAIN ST
N COURT ST
MARKET ST
ASH ST
HUTCHINSON
STELLER AVE
90TH

W 6TH ST
TAFT AVE
W 2ND ST
BLACKHAWK RD

RUTLEDGE RD

Bus Zone
4TH ST
OHS
Wilson
Emerald Apts.

Beach
US 63
US 34
Hillside
IOWA AVE
ROEMER AVE
HERRMANN

K-Mart
Quincy Place Mall
VENTURE DR
WILDWOOD DR
Hy-Vee
Target
E MAIN ST

Wal-Mart
Camelot Towers
WAPELLO ST
CHURCH ST
HAYNE ST
Cargill

ALBIA RD
Fareway
YMCA
US 34

SKYLINE DR
Wildwood
GREENWOOD DR
CHESTER AVE
E VINE ST
EMMA ST
Ottumwa Transit

Good Samaritan Center
Evans
FINLEY
South Oak
WILLARD ST
FINLEY ST
S WARD ST
WILSON ST
MADISON AVE

GLENWOOD ST
WILLIAMS ST
WILLIAMS ST
Agassiz
E MARY ST

S FERRY ST
Douma
E MARY ST

TRAXLER DR
W MARY ST

Liberty
S WEBSTER ST
S WARD ST
HAND ST
S MILNER ST
LAKE RD

Assessment of Needs and Coordination Issues

Assessment of Service, Management, Fleet and Facility Needs

10-15 RTA provides service to a ten-county region in southeastern Iowa. The transit agency experienced a large ridership decrease in 2012, this was due to Lee County leaving 10-15. Over the past five years 10-15 has averaged 169,223 rides and has seen an increase in ridership from 145,605 rides in 2012 to 180,759 rides in 2018. Figure 5.4 shows 10-15's overall ridership from 2010 through 2018. During the past four years, both 10-15's operating expenses and revenues have increased. Figure 5.5 shows 10-15 RTA's expenses and revenues for 2015-2018.
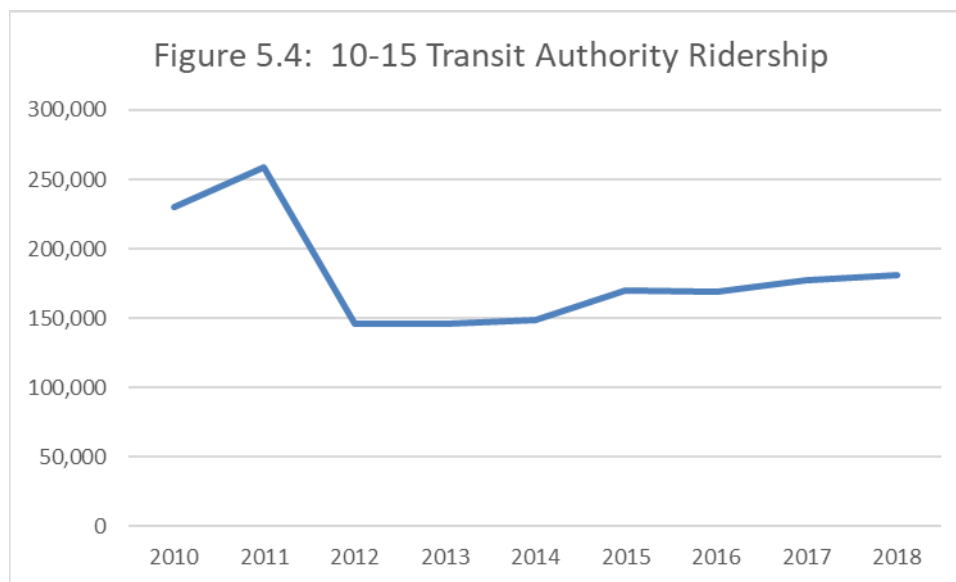
Figure 5.4: 10-15 Transit Authority Ridership

Source: Iowa DOT Office of Public Transit, Formula Allocation for 5310/5311 Program

Figure 5.5: Exepenses and Revenues for 10-15 RTA		
	Expenses	Revenues
2015	$1,650,401	$1,674,157
2016	$1,853,268	$2,123,848
2017	$3,085,197	$3,062,597
2018	$2,637,500	$3,037,403
Source: 10-15 Transit		

10-15 operates primarily as a demand response service and uses a combination of light duty buses and vans to provide point to point transportation to riders. It also provides a fixed route service called Oskaloosa Rides along with the paratransit service in the City of Oskaloosa utilizing a medium duty bus and a lift van. Ridership for Oskaloosa Rides was 3,025 in 2016 and decreased to 2,800 in 2017. The service experienced an increase in ridership overall in the last three years with an increase to 4,531 rides in 2018.

Like all public transit agencies replacing older and higher mileage vehicles is an issue for 10-15. The regional transit agency has been able to make use of Surface Transportation Program (now Surface Transportation Block Grant) funds from both RPA 15 and RPA 17 to purchase replacement vehicles. 10-15 has also used the AMOCO Loan program for no interest loans as local match to assist with purchasing vehicles. Both of these programs have assisted 10-15 RTA in replacing vehicles. In addition, 10-15 is also starting to purchase more minivans to use in areas where a light duty bus is not necessary in order to save on gas and maintenance costs.

In October of 2016 10-15 RTA moved into a facility that the organization purchased and renovated after years of sharing a facility with Ottumwa Transit. This facility provides administration and maintenance space for 10-15 for their current operations and expansion. The agency is planning to construct a second building on the property that will provide covered parking for the buses as all of the vehicles currently park in the open unless they are in one of the maintenance bays. This new building will also house a wash bay.

Ottumwa Transit provides fixed route service to the City of Ottumwa.   While the agency has averaged 156,865 rides over the past five years, it has experienced several decreases in ridership over the past nine years. These decreases can be attributed to changes in routes and cuts in service. Prior to 2011, Ottumwa Transit had been providing service on weekend and had been operating a JARC service, both of these were stopped to reduce costs as grant funding was not available. The agency also tried to make changes routes in 2013 which were unpopular and resulted in another decrease in ridership. Ottumwa Transit has returned to the previous routes and ridership is stabilizing. Figure 5.6 shows Ottumwa Transit's ridership between 2010 and 2018. During the past five years, operating expenses for have remained constant, revenues however have experienced a decrease. Figure 5.7 shows Ottumwa Transit's operating expenses and revenues for 2014-2018.
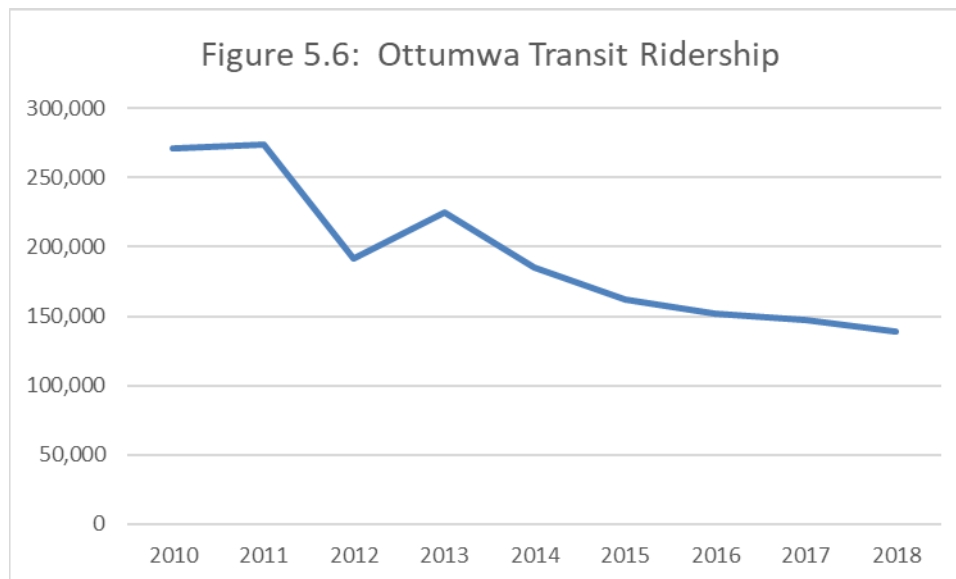
Figure 5.6: Ottumwa Transit Ridership

A line chart showing Ottumwa Transit ridership from 2010 to 2018. Ridership starts around 270,000 in 2010, stays near 272,000 in 2011, drops to about 190,000 in 2012, rises to about 225,000 in 2013, then declines steadily to about 140,000 in 2018. The y-axis ranges from 0 to 300,000 in increments of 50,000.

Source: Iowa DOT Office of Public Transit, Formula Allocation for 5310/5311 Program

Figure 5.7: Expenses and Revenues for Ottumwa Transit		
	Expenses	Revenues
2014	$1,066,920	$118,324
2015	$944,429	$108,244
2016	$979,430	$115,266
2017	$1,122,039	$96,311
2018	$1,061,568	$77,277
Source: Ottumwa Transit		

Ottumwa Transit uses a fleet of medium duty buses to provide fixed route service and minivans to provide paratransit service. Replacing older and higher mileage vehicles is an issue for Ottumwa Transit. All of the agency's medium duty buses were purchased at the same time with American Recovery and Reinvestment Act funds, meaning they are all of the same age and will need replacement at the same time. The cost of one medium duty bus is significant, and to replace ten of them will be a burden for Ottumwa Transit without grant assistance. Ottumwa Transit may apply for Surface Transportation Block Grant Program funds from RPA 15 to assist with vehicle replacement.

Since October of 2016, Ottumwa Transit no longer shares its facility with 10-15 RTA, but now has the entire space for its operations. This allows Ottumwa Transit more space for its administrative staff, for vehicle maintenance and parking.

Recent Developments Affecting Coordination Issues

There are few opportunities for coordination within the region. The health and human service agencies have few vehicles for passenger transportation and provide service during limited hours to only their clients, as shown by the Passenger Transportation Providers table on page 7. They may also have few additional dollars to help fund a new or expanded service. Many of these agencies already rely on either the public transit agencies or the private transportation providers for passenger transportation services.

Prior to October of 2016, 10-15 RTA and Ottumwa Transit coordinated by sharing an administrative and maintenance facility. In October of 2016 10-15 moved to its own facility and since that time there has been no coordination of operations between the two public transit agencies. Neither 10-15 nor Ottumwa Transit has explored coordination with the cab companies.

Since 2014, 10-15 has worked with the United Way of Mahaska County and the City of Oskaloosa to establish "Oskaloosa Rides" a fixed route service and paratransit service in the City of Oskaloosa. This service was funded with the assistance of an STA Special Projects grant for the first two years.   After the end of the STA Special Projects funding, the City of Oskaloosa has been making the decision to fund the service each year. The City Council recently made the decision to fund "Oskaloosa Rides" for SFY 19. The decision was also made last year to offer "Oskaloosa Rides" as a free service to riders, and the service will continue to operate free to riders for SFY 19.

Since late 2017, First Resources, Tenco and other health and Human Service agencies have to pay the transportation costs for clients that require 24 care and live at home to go to work sites. Previously this cost had been paid by the managed care organization (MCO). If the person does not require 24 care, the MCO pays the cost of transportation. The heath and human service agencies have been able to cover these increased costs through increased daily rates.

The HCBS Settings Rule will be implemented in Iowa by March 17th, 2019. This is a federal rule with the goal of allowing people on Medicaid waivers individual choice of employment, living quarters and community activity in a more integrated setting. Implementation of the rule will change the movement of passengers within the region, potentially requiring many more trips at different hours. This will require discussion and coordination between the health and human service agencies and both the public transit providers and the private transportation providers.

Public Input Concerning Needs and/or Coordination Issues

Figure 5.8 was obtained from the Passenger Transportation Needs Survey. It identifies by agency when transportation is needed. It also shows if it is regularly scheduled or would be demand responsive, if accessible vehicles would be needed, and identifies the destinations. And it lists whether or not the agency's needs are currently being met with existing transportation.

Figure 5.8: Passenger Transportation Needs					
Agency	When needed	Type	Accessible	Destinations	Needs met
Wapello Co Comm Svcs	WD, WE, E	Scheduled	Yes	W, G, WM, D	Yes
Keokuk Co Comm Svcs	WD, N, M	Demand responsive	Yes	W, G, WM, D	No
American Home Finding/MCAH/WIC	E, WE	Demand responsive	No	S, D, FP	No
Keokuk Co Health Center	WD	Demand responsive	Yes	H	No
Pennsylvania Place/Sylvan Woods	Tues/Thurs WD	Demand responsive	Yes	D/H, around Ottumwa	Yes
Vista Woods Care Center	WD, WE, N	Demand responsive	Yes	D/H, Ottumwa, DM, IC, Fairfield, Pella	No
United Way of Mahaska County	E, WE	Both	Yes	G, M WM, H	No
Van Buren VA/GA	WD	Demand responsive	Yes	IC Ottumwa, Van Buren County	No
Key: When Needed: WD=weekday, WE=weekend, E=evening, N=night, M=morning					
Destinations: W=work, G=grocery, C=church, WM=Walmart, D=doctor, S=stores, FP=food pantry, H=hospital, M=mall					

The following input was obtained from Transit Advisory Group meeting participants and from the Passenger Transportation Needs Survey. This input includes changes to existing services and unmet passenger transportation needs.

- Existing bus routes in Ottumwa are too long, they need to be shorter than 50 minutes.
- There is a need for evening/night service to get people home from work or out to eat or a movie.
- Need for a service to get people home from hospital after a trip to the ER.
- Need for additional transportation from rural areas to larger city for medical and mental health appointments.
- American Home Finding/MCAH and WIC has clients that express frustration with not having transportation after 5pm and on weekends. Also, the organization has

issues where there are clients who need transportation with handicap accessible vehicles periodically.

- Keokuk County Community Services said that transportation is needed at night and on weekends. The problem is this need is random and hard to justify the hours.
- Wapello County Community Services said that additional transportation is needed during second and third shift work hours, however there is not enough to sustain additional service.
- Van Buren County VA and GA said that additional free transportation is needed to get residents to Iowa City.
- United Way of Mahaska County said that people want to be able to access 10-15's demand response service without 24 hours' notice.
- Vista Woods Care Center said that additional transportation is needed when there are urgent trips to doctors or hospitals without notice.

Proposed Improvements

Amtrak station and transit-oriented development area

The Amtrak station on the California Zephyr line through downtown Ottumwa is a tremendous asset. It can serve as a focal point for both a historic and a transit-oriented development (TOD) area. This potential was recognized, and the Ottumwa Regional Legacy Foundation commissioned a study to develop a strategy to use the station to its potential in redevelopment of the TOD. Some of the opportunities and the associated projects from the study, Ottumwa: Opportunity Analysis and Implementation Strategy, which was completed in February 2019, are highlighted below.

As the focus of the area is around the Amtrak station, one of the opportunities identified in the document is to upgrade the Amtrak station and the space around it. This would include the following projects and activities:

- Enhance the station's façade and developing a design for improvements to the interior of the station.
- Work with Amtrak to update the loading platform and canopy.
- Reconfigure the entry drive and relocate parking, improve signage and add additional wayfinding signage.
- Construct a new clocktower feature that references the 1890s train station theme. Construct a pedestrian bridge and train viewing parklet over the tracks connecting to the riverfront.
- Enhance Ballingall Park and the square in front of the station.

- Add multi-modal transit amenities such as: bicycle parking, access to rental cars and car sharing, public transit integration, EV-charging stations, wayfinding signage, connectivity to on-street bike lanes.

With the Amtrak station serving at the center, another opportunity is to create a Transit Oriented Development (TOD) around the Amtrak Station. This would include the following transportation related projects and activities:

- Strengthen multi-modal and visual connections to the business district and Main Street.
- Implement enhancements to accommodate safe pedestrian and bicycle circulation.
- Incorporate regional bus service (Des Moines, Iowa City, etc.)
- Enhance access to car rentals and car sharing.
- Accommodate taxi, Uber and Lyft pick-up and drop-off.
- Expand trail system to Amtrak station, adding linkage to 12 miles of existing trail network.

An opportunity to set Ottumwa apart from other cities is to develop Ottumwa as an excursion destination within the Chicago to Omaha corridor. Projects and initiatives would include:

- Partner with Omaha to advocate for additional daily trains between Omaha and Chicago.
- Expand designated excursion train track and destination features.
- Develop marketing initiative to promote Ottumwa as day or weekend stop between Omaha and Chicago.
- Strengthen connection to Mississippi River tourism, such as Viking Cruises, steam paddleboat tours, and casinos.
- Determine parameters to recruit high speed rail to this corridor.

It is anticipated that the City of Ottumwa will apply for a US Department of Transportation BUILD grant to implement improvements to the Amtrak station and to the surrounding TOD.

The improvements to the Amtrak station and the development of the transit-oriented development area will offer coordination opportunities between different transportation providers. Ottumwa Transit could have time aligned with Amtrak or the regional bus schedule on the route that stops at the station. Demand response services such as 10-15 Transit and Ottumwa Cab can post their contact information at the station for arriving passengers.

Priorities and Strategies

The following priorities and strategies have been identified for improving passenger transportation services in Regional Planning Affiliation 15. These priorities are based on a review of previous Passenger Transportation Plans, Transit Advisory Group meeting minutes, and input received from passenger transportation providers and health and human service agencies. The priorities identified have been reviewed by the Transit Advisory Group to ensure a consensus on the passenger transportation needs of the region and how to address the needs.

1. Priority: Ensure that fixed routes are rider friendly.
    Strategies:
    - Shorten fixed routes so that they are no more than 50 minutes in length.
    - Plan stops at high density residential areas and at large stores or major shopping areas.
    - Consider using two light duty buses that are spaced out on the route by 15-30 minutes instead of one medium duty bus.

2. Priority: Help people get home from the hospital after a trip to the Emergency Room.
    Strategies:
    - Ensure that registration staff at the hospital have the dispatch numbers for public transit and taxicab services.

3. Priority: Help people get home from work or go out to eat or a movie in the evening/at night.
    Strategies:
    - Re-establish a JARC like service with several businesses in Ottumwa.
    - Set one day during a week where transit service is available in the evening/at night to take people out to eat or to a movie.

4. Priority: Provide additional transportation to medical/mental health appointments.
    Strategies:
    - Coordinate trips with health and human service providers for multiple patients using the same vehicle.
    - Coordinate with health and human service providers taking a larger number of patients to Iowa City or Des Moines once a month using a medium duty bus.

Funding

Funding is necessary to support current transit services and to provide expanded or new services to meet the passenger transportation needs in Regional Planning Affiliation 15. Funding for transit services comes from a variety of federal, state, and local sources outlined below.

Federal Transit Funding

Section 5311 funds (Formula Grants for other than Urbanized Areas): Provides funds to public transit agencies for transit activities in rural areas and urban areas with a population less than 50,000. These funds may be used for operations, capital improvements, planning, and Job Access and Reverse Commute service. Funding is distributed to Iowa's public transit agencies based on ridership and revenue miles.

Section 5339 funds (Bus and Bus Facilities Formula Grants): Provides funds to public transit agencies for capital projects to replace, rehabilitate, and purchase buses and vans, and to construct bus related facilities. Approximately $1,250,000 is received by the state each year for use by small urban (under 50,000 population) and regional transit systems. Funds must be used on replacement vehicles and is not available for expansion vehicles. Funding is awarded to public transit systems for vehicle replacement based on their vehicle's Public Transit Management System score, which takes into account the vehicle's age and miles.

Surface Transportation Block Grant program (STBG): Funds allocated through Iowa's Regional Planning Affiliations and Metropolitan Planning Organizations that can be used for road or transit capital projects by cities, counties, and public transit agencies. Up to 80% reimbursement is provided, leaving a 20% local match for projects. Ottumwa Transit and 10-15 RTA have access to STBG funds through RPA 15. The RPA sets aside $50,000 each year from its total allocation for 10-15, Ottumwa Transit projects will be funded out of the City of Ottumwa's allocation. 10-15 Transit also has access to funds through RPA 17.

Rural Transit Assistance Program (RTAP): Provides funds to assist in the design and implementation of training and technical assistance programs and other support services to meet the needs of transit operators in non-urbanized areas (under 50,000 population). The Iowa Department of Transportation is the recipient of these funds and mainly uses them to provide local transit agencies with training fellowships.

State Transit Funding

State Transit Assistance (STA): Provides funds to public transit agencies for operations, capital improvements, and planning. Funding is distributed to Iowa's public transit agencies based on ridership and revenue miles. Both Ottumwa Transit and 10-15 Regional Transit Authority receive 5311 funds.

State Transit Assistance (STA) Special Projects: The Iowa Department of Transportation sets aside $300,000 of STA funds for special projects to improve public transit in the state. Public transit agencies may apply for funds to start up a new service that is developed in cooperation with health and human service agencies. Funds may be awarded for up to two years, which is the time it would take for the service to start being reflected in the STA and 5311 formulas.

Public Transit Infrastructure Grants (PTIG): Provides funds for vertical infrastructure improvements by public transit systems in the state. Projects can be new construction, reconstruction, or remodeling, but must have a vertical component. Projects are evaluated on their anticipated benefits to transit and their ability to be completed quickly. Participation in a project by the PTIG program is limited to 80%, and in combination with other federal funding cannot exceed that number. No individual transit system can receive more than 40% of the PTIG funds available in a year.

Capital Match Revolving Loan Fund (AMOCO Loan): Provides no interest loans to public transit systems which the transit agency can use towards the local match for a federally funded capital project. The transit agency then pays back the loaned amount over the negotiated time period.

Volkswagen Settlement Grant: Provides funds to replace school buses, shuttle bus, transit bus or other vehicles specified in the grant that are diesel powered. Public transit agencies, schools, private organizations, cities and counties are eligible to apply.

Non-transit Funding

Older Americans Act: Provides funding for transportation services for anyone over the age of 60.   Funds are provided to the Area Agencies on Aging, which may then contract with public transit agencies for service and reimburse them with money obtained through the Older Americans Act.

Headstart: Federal program that provides funds for transportation services to low income children and their families. Health and human service agencies may contract

with a public transit agency for this service, and the transit agency is then reimbursed with Headstart funds.

Medicaid: Federal program that can be used to fund transportation services for individuals with disabilities. Transportation services eligible under Medicaid include providing transportation for an eligible person to a sheltered workshop or medical appointments. After completing a trip, the transportation provider submits a reimbursement request to Medicaid.

Local Funding:
Passenger Revenues: Funds obtained from passengers of a transportation service. Can be paid at the time the service is used, or for a voucher, token, or pass that is purchased in advance of using the transportation service. Passenger revenues provide funds to both public and private transit agencies.

Contract Revenue: Cities, counties, health and human service agencies, and private businesses may pay a transit provider for a specific number of rides or access to rides during a block of time. Both public and private transit agencies receive contract revenue.

Advertising Revenue: Transit agencies may sell space on or inside their vehicles to businesses for advertisements to generate some additional revenue. Ottumwa Transit and 10-15 Transit are both selling space on the exterior of their vehicles through an advertising agency.

Municipal Transit Levy: Cities in Iowa are able to levy up to $0.95 per $1,000 assessed value to raise funds that support public transit services. This includes a city directly supporting its urban transit system, or a smaller town using it to support services from their regional transit system. The City of Ottumwa currently uses a municipal transit levy to help fund Ottumwa Transit.

General Fund Levy: Cities and Counties in Iowa are able to use general fund revenues to support transit services. Each of the ten counties served by 10-15 Transit provides funds to the agency to help support its operations.

Health and Human Service Agencies: Health and Human Service Agencies provide many forms of assistance to people, one of which is funding for transportation. This assistance can come in different forms; providing rides either directly or by contracting with another organization, providing bus passes, or gas vouchers.

Businesses: Businesses may provide transportation assistance to their customers or employees. This may be in the form of company vehicle pools, contracting for a service, or subsidizing a service.

Local Foundations: Some local foundations may provide funding to improve passenger transportation services. The Ottumwa Regional Legacy Foundation is a charitable organization that has offered grant opportunities for revitalizing Ottumwa and improving the city's infrastructure. In Keokuk County, the Community Services office coordinates the efforts of non-profit and charitable foundations in the county.

Anticipated Funding
It is anticipated that 10-15 RTA will receive $455,108 in STA and $670,413 in 5311 funds for operations for FY2019. These amounts are based on the total allocation to the state and the agency's 2017 ridership and revenue miles. state and federal operating assistance amounts may vary each year based on these factors. 10-15 receives an annual allocation of $50,000 STBG funds from RPA 15 and it also receives an annual allocation of funds from RPA 17 that it can use to replace vehicles. For local revenue 10-15 receives $2,500 from each of the ten counties annually and can anticipate $25,000 in local funds each year.

Ottumwa Transit is anticipated to receive $196,176 in STA and $350,122 in 5311 funds for operations for FY2019. The amount of state and federal operating assistance that Ottumwa Transit receives each year varies depending on the overall allocation to the state and the transit agency's ridership and revenue miles from two years prior. Ottumwa Transit receives local revenue through a transit levy of 0.81 per $1,000. Last year this provided $483,826 in revenue. This amount fluctuates based on assessed values and the property tax rate.

Funding that will be Sought for Implementation
In addition to the anticipated funding sources mentioned previously, 10-15 RTA will seek funding from the 5339 program for bus replacement and the AMOCO loan program to assist with local match. The agency will use PTIG funds to construct covered parking and a wash bay for buses. 10-15 will also work with the City of Oskaloosa and health and human service agencies in the city to promote Oskaloosa Rides and generate ridership so that the City Council will continue to support the provide financial support for the service.

Ottumwa Transit will seek additional funding from the 5339 program and for bus replacement and will use STBG funds from RPA 15 for the purchase of a replacement bus.

Chapter 6: Trails

Summary of Recent Trail Developments

The following trail developments have been completed in the region during the last five years:

Jefferson County:
- Final Segment of the Fairfield Loop Trail.
- Jefferson County Health Center Trail.
- Installation of mileage markers, informative signs, bike racks and kiosks along the loop trail.
- Restrooms along the trail.
- Artistic enhancements to four bridges and one railroad crossing.
- Community orchard near Chautauqua Park.
- Two new bridges: near Chautauqua Park and Walton Lake.

Mahaska County:
- Connection of the Mahaska Community Recreation Trail to Caldwell Park.
- Trail underpass under the Union Pacific railroad line near William Penn.
- Two trailheads with parking and restrooms.
- Installation of mile markers, directional and safety signage.

Van Buren County:
- Benches along the Keosauqua Loop Trail.
- Installation of mileage markers and maps along the loop trail.
- Informational signage on the Des Moines River Water Trail.
- New boat ramp on the water trail at Douds.

Wapello County:
- Connection of the north levee trail in Ottumwa to Union Park.
- Trail underpass under Highway 34 in Ottumwa.
- Trail extension in Eldon from Walnut Street along Chippewa Creek and the Des Moines River to Water Street and from 7th Street to Elm Street to the Des Moines River Bridge on 9th Street.
- New boat ramp/dock on the water trail at Eldon.

Regional Trails and Connections

Trails considered as regional connect more than one city and/or county within Regional Planning Affiliation 15 or connect a cities/counties within the RPA with cities/counties in the surrounding area. Regional trails can serve as destinations for local trails and connect multiple local trails, improving the overall trail system.

In an effort to identify potential trail connections to cities and counties outside of RPA 15, organizations involved in trail planning and development for the surrounding area were contacted regarding their maps or plans showing existing and proposed trails (Map 6.1). Information obtained from these organizations was reviewed to determine potential connectivity and regional trail development.

Organizations contacted, and documents reviewed

RPA 6 (Poweshiek County)
2013 trail map

RPA 10 (Iowa and Washington counties)
2011 trail plan

RPA 16 (Henry and Lee counties)
2018 transportation and development plan

RPA 17 (Monroe and Davis counties)
2017 trail plan

RPA 11 (Marion and Jasper counties)
Map from 2014 long-range transportation plan

Iowa Department of Transportation
Bicycle and Pedestrian Long Range Plan

U.S. Army Corps of Engineers
2015 Lake Red Rock Master Plan

Iowa Natural Heritage Foundation
No plan, relies on MPO and RPA plans.

Existing and Planned Regional Trails in RPA 15

Lower Des Moines River Water Trail:
- Length: 44 miles.
- Location: Between Eldon in Wapello County and Farmington in Van Buren County.
- Details: See Van Buren County Trails and Wapello County Trails for more information on the trail in each county.

Figure 6.1: Paddlers learning about the history of the Des Moines River approach an old lockkeeper's house.

Skunk River Water Trail:

- Length: 72 miles.
- Location: Between the South Skunk River Access (6.5 miles S of Sigourney) in Keokuk County and Oakland Mills Park (4 miles southwest of Mt Pleasant) in Henry County. Flows through Keokuk, Washington, Jefferson and Henry counties.

Kewash Trail:

- Length: 14 miles.
- Location: Connects Keota in Keokuk County with West Chester and Washington in Washington County.
- Details: See Keokuk County for more details on the trail in the county.

Figure 6.2: Boat ramps such as the one at MacCoon Access in Jefferson County are required for water trails.

Future Connections

- Pella/Lake Red Rock and Oskaloosa: connecting the Volksweg Trail and the Mahaska Community Recreation Trail.
- Oskaloosa, Eddyville and Ottumwa: connecting the Mahaska Community Recreation Trail, Ottumwa Trail System and the American Gothic Trail.
- Sigourney and Keota: connecting the Belva Deer Trail and the Kewash Trail.
- Eldon and Keosauqua: connecting the Eldon Gothic Trail, Keosauqua Loop Trail and Riverfront Trail.
- Oskaloosa and Sigourney.
- Keosauqua and Farmington/Shimek State Forest.
- Belva Deer Recreation Area and Lake Darling State Park.

Figure 6.3: The Kewash Trail connects two counties and three cities.

Map 6.1: Regional Bicycle and Pedestrian Facilities and Connections
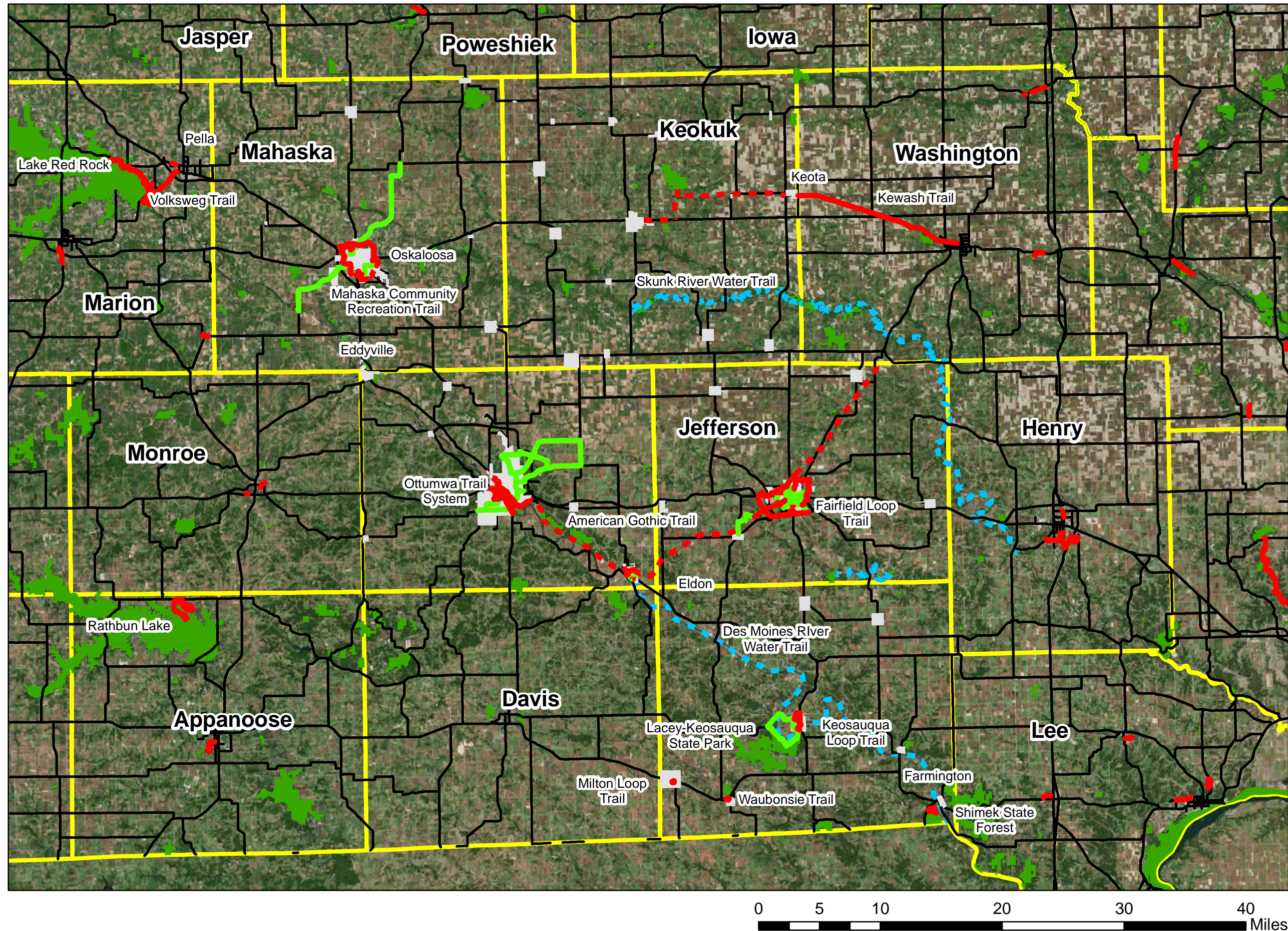
Legend

- Existing Trails
- Proposed Trails
- Signed bike routes
- Cities
- Water Trails
- Parks/Natural Areas
- Counties

Map prepared by the Area 15 Regional Planning Commission Sources: ESRI, Iowa DOT, Iowa DNR, county conservation boards, and local trails groups. Date prepared: 4-26-19

Counties and labels: Jasper, Poweshiek, Iowa, Keokuk, Washington, Mahaska, Marion, Monroe, Jefferson, Henry, Davis, Appanoose, Lee

Labeled features: Pella, Lake Red Rock, Volksweg Trail, Oskaloosa, Mahaska Community Recreation Trail, Eddyville, Keota, Kewash Trail, Skunk River Water Trail, Ottumwa Trail System, American Gothic Trail, Fairfield Loop Trail, Eldon, Des Moines River Water Trail, Rathbun Lake, Lacey-Keosauqua State Park, Keosauqua Loop Trail, Milton Loop Trail, Waubonsie Trail, Farmington, Shimek State Forest

Scale: 0 5 10 20 30 40 Miles

N

Existing and Proposed Trails By County

Jefferson County

According to the 2017 American Community Survey population estimates, Jefferson County has a population of 18,422. Fairfield is the county seat and largest city, with a population of 10,420. In addition to Fairfield, there are six other smaller cities within the county. Jefferson County's geography is rural consisting of farmlands with scattered woodlands. The Skunk River runs through the northeastern corner of the county. There are no other large rivers or natural lakes in Jefferson County.

The Jefferson County Trails Council was formed in 1997 with the assistance of the County Conservation Board. The original goal of the group was to extend the Jefferson County Park trail to Libertyville along the abandoned Rock Island rail line. A section from the park to Cedar Creek was acquired and converted into a trail, and a regional enhancement grant was obtained for constructing a bridge over the creek. The Cedar View Trail Bridge was completed in 2002 (Map 6.2).

For more information:

Jefferson County Trails Council.
www.jeffersoncountytrails.org
comments@jeffersoncountytrails.org

Jefferson County Conservation Board.
www.jeffersoncountyconservation.com
jeffersonccb@lisco.com
(641) 472-4421

Fairfield Parks and Recreation.
cityoffairfieldiowa.com/index.aspx?NID=249
info@fairfieldparksandrec.org
(641) 472-6159

Regional Transportation Enhancement and Transportation Alternative Program awards

2001	Cedar View Trail - $28,000
2002	Cedar View Trail - $358,600
2003	Louden (BNSF) Bridge - $282,951
2007	Matkin (Hwy 1) Bridge - $125,000
2010	Loop Trail NW segment - $136,516
2018	Hwy 1 Paved Shoulders - $320,000 (Filmore Av to Libertyville Rd)

While construction of the bridge and the Cedar View Trail were taking place, the trails council developed a plan for a loop trail around Fairfield, with "feeder" trails running from the loop trail into the city. The Fairfield Loop Trail was constructed in sections; the first section constructed in 1999 and the most recent in 2013. There are also five designated and signed bikeways/walkways in Fairfield, which connect the city's neighborhoods to the loop trail (Map 6.3).

Existing Trails

Fairfield Loop Trail:

- Maintained by: City of Fairfield and the Jefferson County Conservation Board.
- Length: 15.9 miles.
- Surface type: Most of the trail is crushed limestone, there are several paved segments and one section of gravel shared roadway.
- Connections: Jefferson County Health Center Trail, Cedar View Trail (Jefferson County Park), Witham Woods, Waterworks Park, Chautauqua Park, Lamson Woods and Neff Wetlands.

Figure 6.4: Railroad crossing maze safety enhancement on 28th Street which

Cedar View Trail:

- Maintained by: Jefferson County Conservation Board.
- Length: 4.4 miles.
- Surface type: 1.4 miles crushed limestone, 3.0 miles dirt, gravel, or concrete shared roadway.
- Connections: Jefferson County Park, Fairfield Loop Trail, Cedar Creek Wetlands, Cedar Creek Timber, City of Fairfield and the City of Libertyville.

Jefferson County Health Center Trail:

- Maintained by: Jefferson County Health Center.
- Length: 0.9 miles.
- Surface type: Crushed limestone.
- Connections: Fairfield Loop Trail.

Skunk River Water Trail:

- Maintained by: Jefferson County Conservation Board.
- Length: 10.5 miles in Jefferson County.
- Access points: Coppock Access and MacCoon Access.

Figure 6.5: This bridge on the Cedar View Trail is 376' long and spans Cedar Creek. It uses the abutments from an old railroad

Cedar Creek Water Trail:

- Maintained by: Jefferson County Conservation Board.
- Length: 6 miles.
- Access Points: Turkey Run Wildlife Area and Round Prairie Park.

Future Improvements

Trails and Bicycle Facilities:

- Paved shoulders along Highway 1 from Fillmore Ave to Libertyville Rd.
- Designated bike lanes on or an alternative route to replace Burlington Ave as a shared roadway.
- Connecting to the Suburban Heights subdivision.
- Separating the trail users on Mint Blvd from vehicle traffic.
- Mountain biking trails.
- Connecting to Cambridge Investments using abandoned railroad ROW.
- Connecting to Pleasant Plain using abandoned railroad ROW.
- New standalone trail to Libertyville to replace the shared roadway.
- Connecting to the American Gothic Trail.
- Standalone trail along Hwy 1 from Fillmore Ave to the loop trail.
- Extend trail on east side of Hwy 1 to Makin Bridge and loop trail.
- Connecting the sidewalks by the Law Center to the loop trail.
- Connecting Suburban Heights to Jefferson County Park.

Trail Enhancements:

- Street lights at rural road crossings.
- Wayfaring signs on the trails.
- Public art and seating along the trails.
- More interpretive signs on the trails.
- More landscaping around trail kiosks.
- Drinking water available along the trail.
- Strategic clearings for birdwatchers.
- Bicycle maintenance stations.

Figure 6.6: Mile markers are located every ¼ mile along the loop trail helping users identify

Map 6.2: Jefferson County Bicycle and Pedestrian Facilities

N

Keokuk

Washington

Pleasant Plain

Packwood

Skunk River Water Trail

1

Legend

Wapello

Existing Trails

Proposed Trails

Signed bike routes

Cities

Water Trails

Water trail access

Parks/Natural Areas

Counties

Whitham Woods

Fairfield Loop Trail

Fairfield

34

34

Lockridge

Cedar View Trail

Lamson Woods

Batavia

Cedar Creek Timber

Libertyville

Henry

1

American Gothic Trail

Cedar Creek Water Trail

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT, Iowa
DNR, Jefferson County Trails,
Jefferson County Conservation.
Date prepared: 4-26-19

Turkey Run
Wildlife Area

Round Prairie Park

Eldon

Van Buren

Des Moines River Water Trail

0   1.25   2.5   5   7.5   10

Miles

Map 6.3: City of Fairfield Bicycle and Pedestrian Facilities

N

① 1

Fairfield Loop Trail

Maharishi University of Management

Waterworks Park

P

34

Whitham Woods

P

Chautauqua Park

Rec Center

P

P

Cedar View Trail

P

Jefferson County Park

Lamson Woods

P

Jefferson County Health Center Trail

P

Cedar Creek Timber

Cedar Creek Wetlands

P

P

34

① 1

Legend

— **Existing Trails**

---- **Proposed Trails**

— **Signed bike routes**

P **Trailheads/Parking**

▮ **Parks/Natural Areas**

▯ **Cities**

▯ **Counties**

0   0.25   0.5   1   1.5   2
Miles

Keokuk County

Keokuk County has a population of 10,153 people according to the 2017 American Community Survey. The county seat and largest city is Sigourney, which has a population of 2,002. The county is made up of fifteen other smaller cities in addition to Sigourney. The geography of the county is dominated by the Skunk River, both the North Skunk and South Skunk run west to east across the southern half of the county before combining to form a single river in the southeast quarter of the county (Map 6.4).

Existing Trails
Kewash Trail:
- Maintained by: Washington County Conservation Board.
- Length: 14 miles.
- Surface type: crushed limestone.
- Connections: City of Keota, City of West Chester and the City of Washington.

Skunk River Water Trail:
- Maintained by: Keokuk County Conservation Board.
- Length: 20 miles in Keokuk County.
- Access points: South Skunk River Access, Manhattan Bridge Access and Rubio Access.

Future Improvements
Trails and Bicycle Facilities:
- Complete the Belva Deer Trail from Hwy 92 to the Belva Deer Recreation Area.
- Connecting the Belva Deer Trail to Sigourney and Legion Park.
- Connecting Sigourney to Yenruogis Park.
- Connecting the Belva Deer Trail to Keota and the Kewash Trail.
- Connecting Sigourney to Oskaloosa.
- Connecting Belva Deer to Lake Darling State Park.

For more information:

Keokuk County Conservation Board.
www.keokukcountyia.com
kccb@cloudburst9.net
(641) 622-3757

City of Sigourney.
sigourney-iowa.com
sigourneyclerk@iowatelecom.net
(641) 622-3080

Regional Transportation Enhancement and Transportation Alternative Program awards

2016 Belva Deer Recreation Area Trail Project - $509,744

2019 Belva Deer Recreation Area Trail Project - $225,641
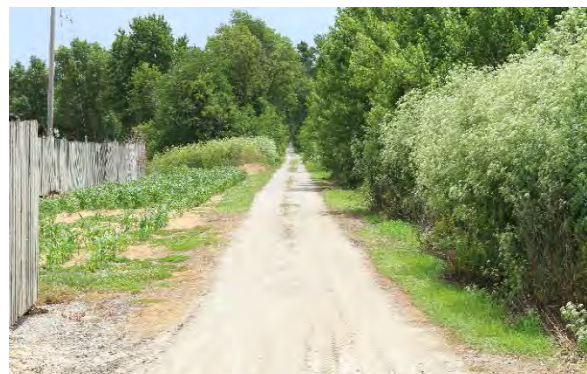
Figure 6.7: The Kewash Trail runs east from Keota on an abandoned rail bed to Washington.

Map 6.4: Keokuk County Bicycle and Pedestrian Facilities
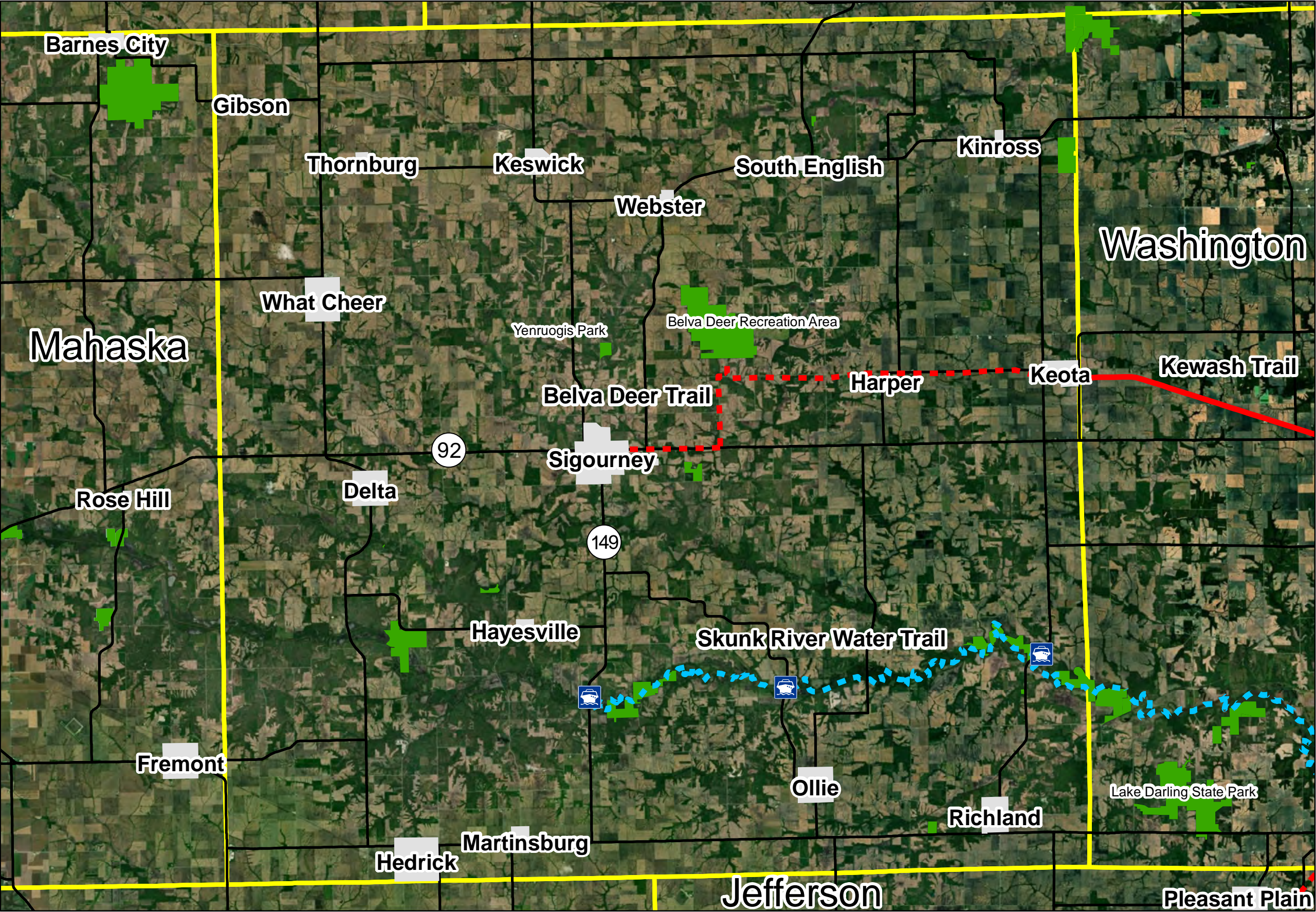
N

Barnes City

Gibson

Thornburg   Keswick

South English   Kinross

Webster

Washington

What Cheer

Legend

Belva Deer Recreation Area

Yenruogis Park

Mahaska

Belva Deer Trail

Harper   Keota   Kewash Trail

92

Sigourney

Rose Hill   Delta

149

Hayesville

Skunk River Water Trail

Fremont

Ollie

Richland

Lake Darling State Park

Hedrick   Martinsburg

Jefferson

Pleasant Plain

— Existing Trails

---- Proposed Trails

— Signed bike routes

🚤 Water trail access

⬜ Cities

···· Water Trails

🟩 Parks/Natural Areas

⬜ Counties

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, Iowa DOT, Iowa DNR, Keokuk County Secondary Roads, Keokuk County Conservation.
Date prepared: 4-26-19

0   1.75   3.5   7   10.5   14
Miles
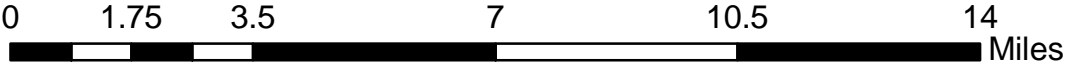
Mahaska County

The 2017 American Community Survey shows Mahaska County has a population of 22,235 and the largest city is Oskaloosa with a population of 11,546. Oskaloosa is located in the center of the county and is also the county seat. Mahaska County includes eight other smaller cities. The most prominent geographical features of the county are its three rivers; the North Skunk, South Skunk, and the Des Moines.

The Mahaska Community Recreation Foundation (MCRF) and Mahaska County Conservation carry out trails planning within the county. MCRF was formed in 1998 with a mission to facilitate and promote recreation in Mahaska communities. The organization built their first segment of the Oskaloosa Loop trail in 1999 (Map 6.5). The MCRF is involved in developing the Community Recreation Trail, which is a loop trail around Oskaloosa, developing the Lacey Recreation Complex, and developing the Oskaloosa Urban Park, which includes a skate park, gazebo and basketball courts.

> **For more information:**
>
> Mahaska Community Recreation Foundation.
> www.mcrf.info
> (641) 672-2499
>
> Mahaska County Conservation Board.
> www.mahaskaconservation.com
> (641) 673-9327
>
> City of Oskaloosa.
> www.oskaloosaiowa.org
> (641) 673-9431

> **Regional Transportation Enhancement and Transportation Alternative Program awards**
>
> 2003   Hwy 63 South trail Underpass - $158,919
>
> 2006   Eddyville Cemetery Road - $85,008
>
> 2007   Hwy 63 North trail Underpass - $229,218
>
> 2016   Oskaloosa Sidewalk Improvement Program - $162,574

The MCRF also partners with organizations in the community to sponsor events such as "Bike to Work" week and encourage riding and walking as part of the "Healthy State" initiative. As of the winter of 2018, 15 miles of the Community Recreation Trail are complete and 1.5 miles remain to be constructed around southeast Oskaloosa to create a complete loop (Map 6.6).

Existing Trails

Mahaska Community Recreation Trail:
- Maintained by: Mahaska Community Recreation Foundation and the City of Oskaloosa.
- Length: 15 miles.
- Surface type: Most of the trail is poured concrete, there are several paved shared roadway segments and one gravel shared roadway section.

- Connections: Lacey Recreation Complex, T65 Bike Route, Caldwell Park, City of University Park, Edmundson Park and the T39 Bike Route.

T65 Bike Route:

- Maintained by: Mahaska County Secondary Road Department.
- Length: 9 miles.
- Surface type: Paved roadway.
- Connections: Mahaska Community Recreation Trail.

T39 Bike Route:

- Maintained by: Mahaska County Secondary Road Department.
- Length: 8 miles.
- Surface Type: Paved roadway.
- Connections: Mahaska Community Recreation Trail, City of Beacon and Eveland Access.

Figure 6.8: This unique space can be found at the center of the roundabout the trail passes under south of the Lacey Recreation Complex.

Future Improvements

Trails and Bicycle Facilities:

- Completing the Mahaska Community Recreation Trail segment between Burlington Road and Fox Run Drive.
- New standalone trail between Edmundson Park and Highway 63 to replace the shared roadway.
- New standalone trail between the animal shelter and Carbonado Rd to replace the shared roadway.
- Connecting to Lake Keomah State Park.
- Connecting to the Russell Wildlife Area.
- Connecting to the Hawthorn Wildlife Area.
- Connecting to Keokuk County Trails

Figure 6.9: Roads that are wide enough may include bike lanes. Signs and pavement markings on South H Street are used to designate bike lanes.

Trail Enhancements:

- Trailhead on 9th Ave E in University Park, which will include a fitness park and playground.
- Designated bike routes linking Oskaloosa to the trail.
- Wayfaring signs along the bike routes and on the trail.
- Bike racks at destinations along the trail.
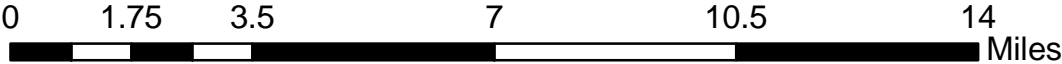- Completion of the Mahaska County Conservation learning center in Caldwell Park.

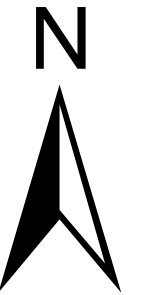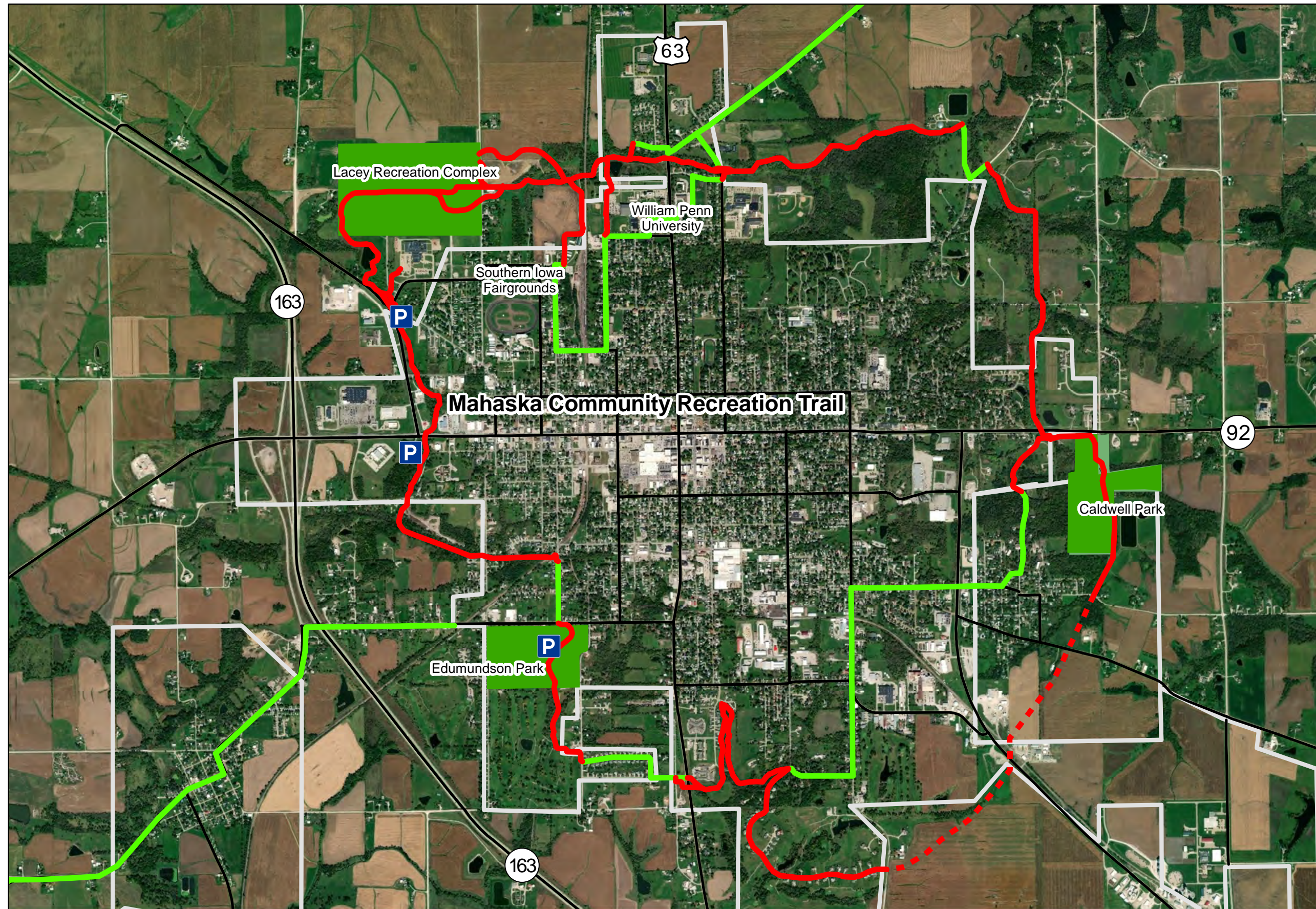# Map 6.5: Mahaska County Bicycle and Pedestrian Facilities

Barnes City

Gibson

New Sharon

Thornburg

Hawthorn Wildlife Area

Marion

63

What Cheer

Volksweg Trail

163

Russell Wildlife Area
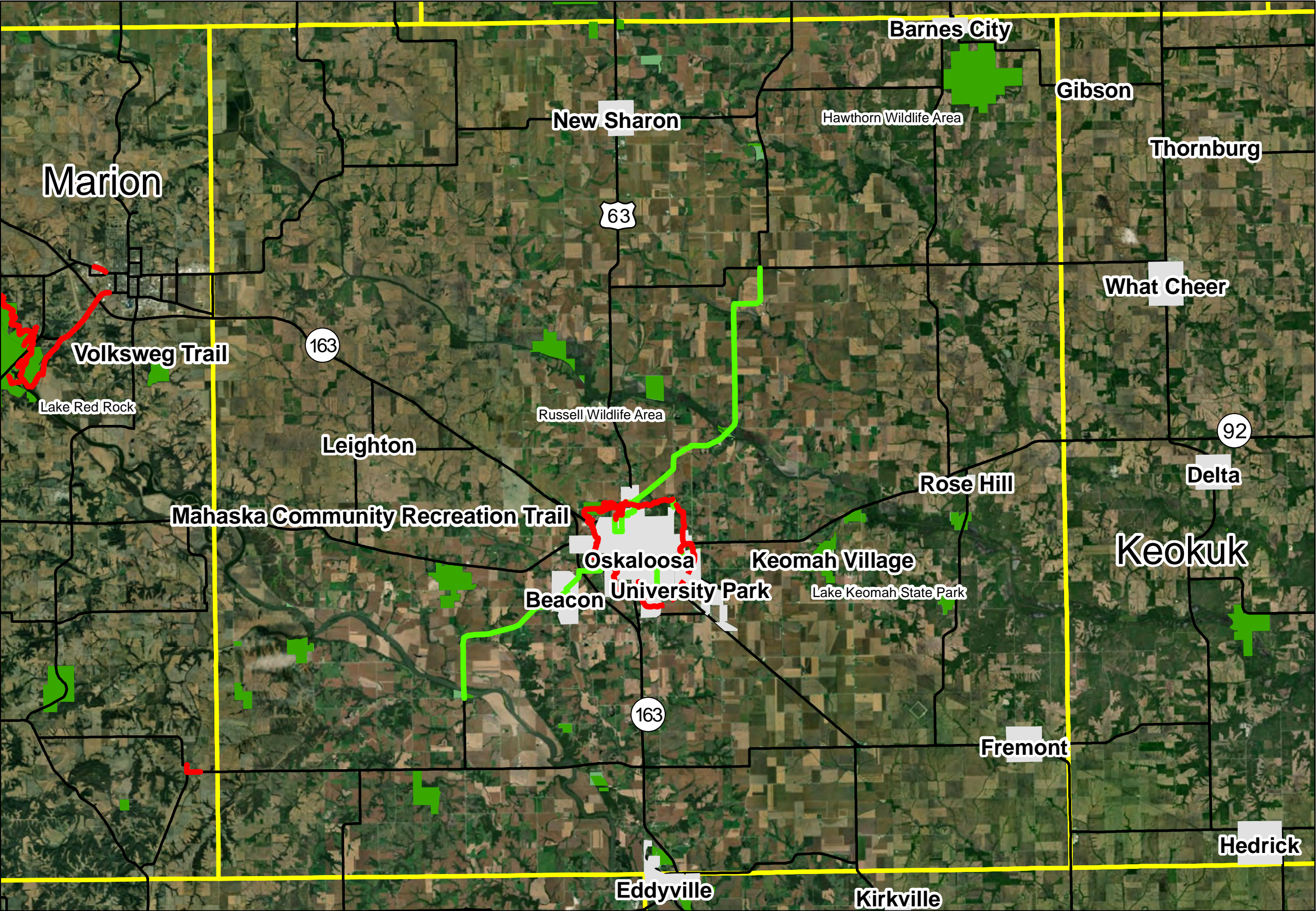
Legend

— Existing Trails

--- Proposed Trails

— Signed bike routes

Cities

Parks/Natural Areas

Counties

92

Leighton

Delta

Rose Hill

Mahaska Community Recreation Trail

Keokuk

Oskaloosa

Keomah Village

Beacon

University Park

Lake Keomah State Park

Lake Red Rock

163

Fremont

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, Iowa DOT, Iowa DNR, Mahaska Community Recreation Foundation, Mahaska County Conservation.
Date prepared: 4-26-19

Hedrick

Eddyville

Kirkville

0   1.75   3.5   7   10.5   14
                                                    Miles

Map 6.6: City of Oskaloosa Bicycle and Pedestrian Facilities

N

Lacey Recreation Complex

William Penn University

Southern Iowa Fairgrounds

Mahaska Community Recreation Trail

Caldwell Park

Edumundson Park

63

163

163

92

Legend

— Existing Trails

- - - Proposed Trails

— Signed bike routes

P Trailheads/Parking

Parks/Natural Areas

Cities

Counties

Map prepared by the Area 15 Regional Planning Commission Sources: ESRI, Iowa DOT, Iowa DNR, Mahaska Community Recreation Foundation, Mahaska County Conservation. Date prepared: 4-26-19

0   0.25   0.5   1   1.5   2
Miles

Van Buren County

According to the 2017 American Community Survey, Van Buren County has a population of 7,157 people. Keosauqua is the county seat and largest city, with a population of 923. In addition to Keosauqua, there are six other smaller cities within the county. All seven of the cities are collectively known as the Villages of Van Buren, and they celebrate their history and heritage by offering a mixture of natural beauty, historic architecture, and small shops. Van Buren County's topography consists of the Des Moines River valley and scattered woodlands. The Des Moines River runs from the northwest to the southeast through the center of the county. Other large and notable features include Lacey-Keosauqua State Park, Shimek State Forest and Lake Sugema.

For more information:

Van Buren County Trails Association.
https://www.facebook.com/pages/Van-Buren-County-Trails-Association/192886144091157?fref=ts

Van Buren County Conservation Board.
www.vbcountyconservation.com
vbccb@netins.com
(319) 293-3589

City of Keosauqua.
citykeo@netins.net
(319) 293-3536

Pathfinders RC&D.
www.desmoinesriverwt.com
info@pathfindersrcd.org
(641) 472-6177

The Van Buren County Trails Association was formed in January of 2002 and drafted a nine-point mission statement in order to further trail development in Van Buren County. This mission statement was created through cooperation from the committee members and several of the villages. Some of the points in this statement include: giving priority to trails that connect existing trails in the county and to trails in neighboring counties, develop trails that connect all the villages along with other historic or natural areas, use shared roadway bicycle facilities only as a last resort when other types of trails are not practical, and when possible plan trails on county/state owned property or private property where an easement has been given. In 2003, the association started work on the Des Moines River Water trail across the county using funds from the Van Buren Foundation and the Federal Recreational Trails Program (Map 6.7). These funds were used by the trails association to construct boat ramps at access points.

Regional Transportation Enhancement and Transportation Alternative Program awards

2003	Bentonsport Trail Bridge	$62,707
2005	Keosauqua Loop Trail	$148,000
2015	Keosauqua Riverfront Trail	$240,000

Existing Trails

Keosauqua Loop Trail (Map 6.8):

- Maintained by: City of Keosauqua.
- Length: 2 miles.
- Surface type: limestone chips, paved shared roadway and paved shoulders.
- Connections: Keosauqua Bike Loop, Van Buren County Fairgrounds and Roberts Building Community Center.

Waubonsie Trail:

- Maintained by: Cantril Grass Roots.
- Length: 1 mile.
- Surface type: Gravel.

Milton Loop Trail:

- Maintained by: City of Milton.
- Length: 1 mile.
- Surface type: Gravel.

Indian Lake Trail:

- Maintained by: City of Farmington.
- Length: 2 miles.
- Surface type: Gravel.

Figure 6.10: The Lacey-Keosauqua Bike Loop follows the park road.

Lacey-Keosauqua Bike Loop:

- Maintained by: Van Buren County Secondary Road Department and the Iowa Department of Natural Resources.
- Length: 9.5 miles.
- Surface type: Paved roadway.
- Connections: Keosauqua Bike Loop, City of Keosauqua and Lacey-Keosauqua State Park.

Keosauqua Riverfront Trail

- Maintained by: City of Keosauqua
- Length: 0.98
- Surface type: Concrete and paved shared roadway
- Connections: Keosauqua Loop Trail, Keosauqua Bike Loop and Riverfront Park.

Lower Des Moines River Water Trail:

- Maintained by: Van Buren County Conservation Board and access point managers.
- Length: 41 miles in Van Buren County.

- Access Points: Shidepoke Ramp, Douds Access, Austin County Park, Keosauqua Ramp, Bentonsport Park Access, Bonaparte Access, Des Moines River Access and Farmington Access.

Future Improvements

Trails and Bicycle Facilities:

- Connecting to the planned baseball fields that will be constructed along J40 in the northwest corner of Keosauqua.
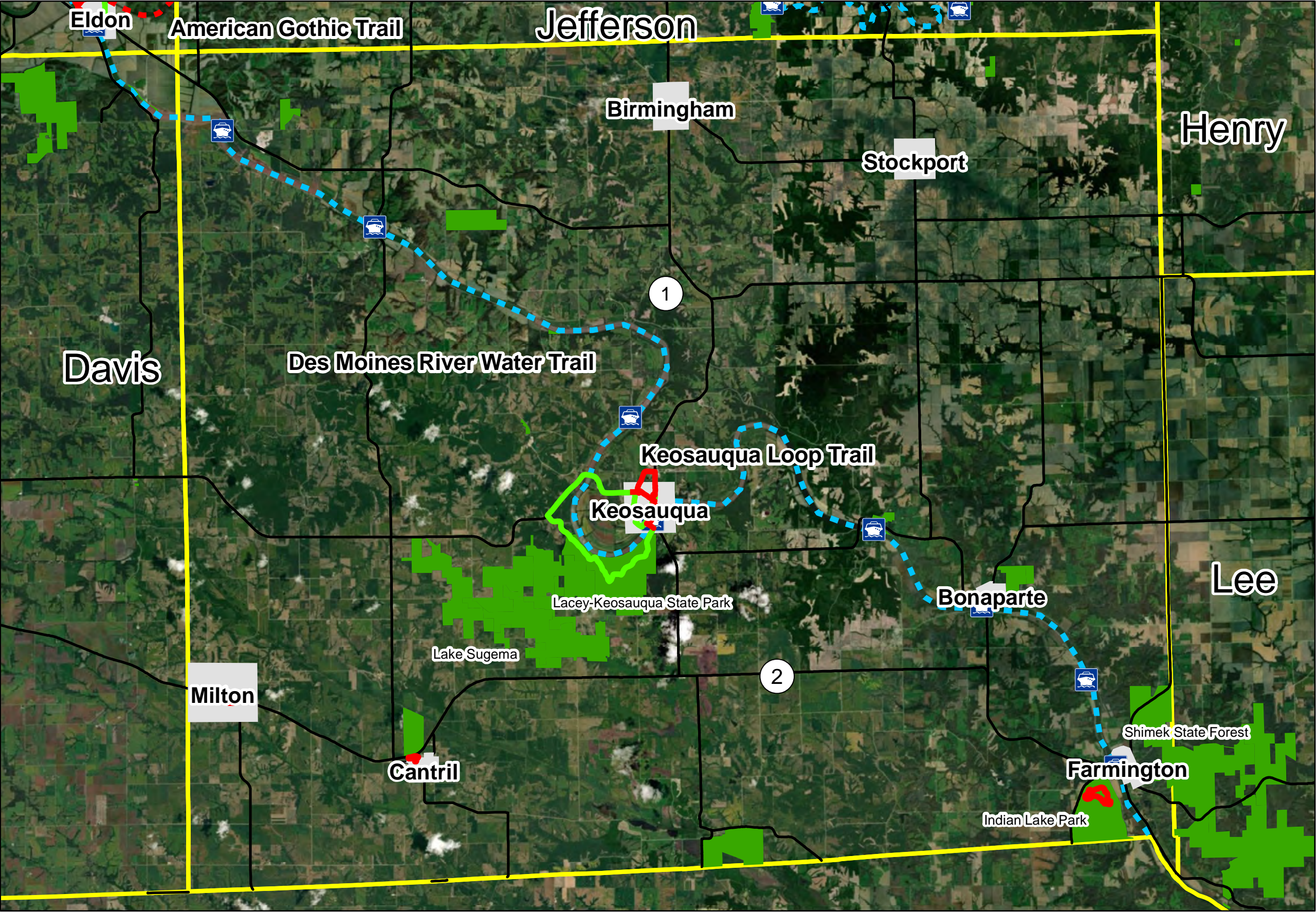- Connecting the planned baseball fields to the high school.

Trail Enhancements:

- Information kiosks at access points to the Des Moines River Water Trail.
- Flashing pedestrian crossing sign at the trail crossing on Highway 1.
- Landscaping along the riverfront trail.
- Benches and maps along the trails.

Figure 6.11: Maps located at the trailheads of the Keosauqua Loop Trail provide information to the user on the route.

Map 6.7: Van Buren County Bicycle and Pedestrian Facilities

Eldon

American Gothic Trail

Jefferson

Birmingham

Stockport

Henry

Davis

Des Moines River Water Trail

①

Keosauqua Loop Trail

Keosauqua

Lacey-Keosauqua State Park

Lake Sugema

Milton

Bonaparte

Lee

②

Shimek State Forest

Cantril

Farmington

Indian Lake Park

Legend

— Existing Trails

---- Proposed Trails

— Signed bike routes

🚤 Water trail access

⬜ Cities

---- Water Trails

🟩 Parks/Natural Areas

⬜ Counties

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, Iowa DOT, Iowa DNR, Van Buren County Trails Association, Van Buren County Conservation.
Date prepared: 4-26-19

N

0   1.5   3   6   9   12
Miles

Map 6.8: City of Keosauqua Bicycle and Pedestrian Facilities
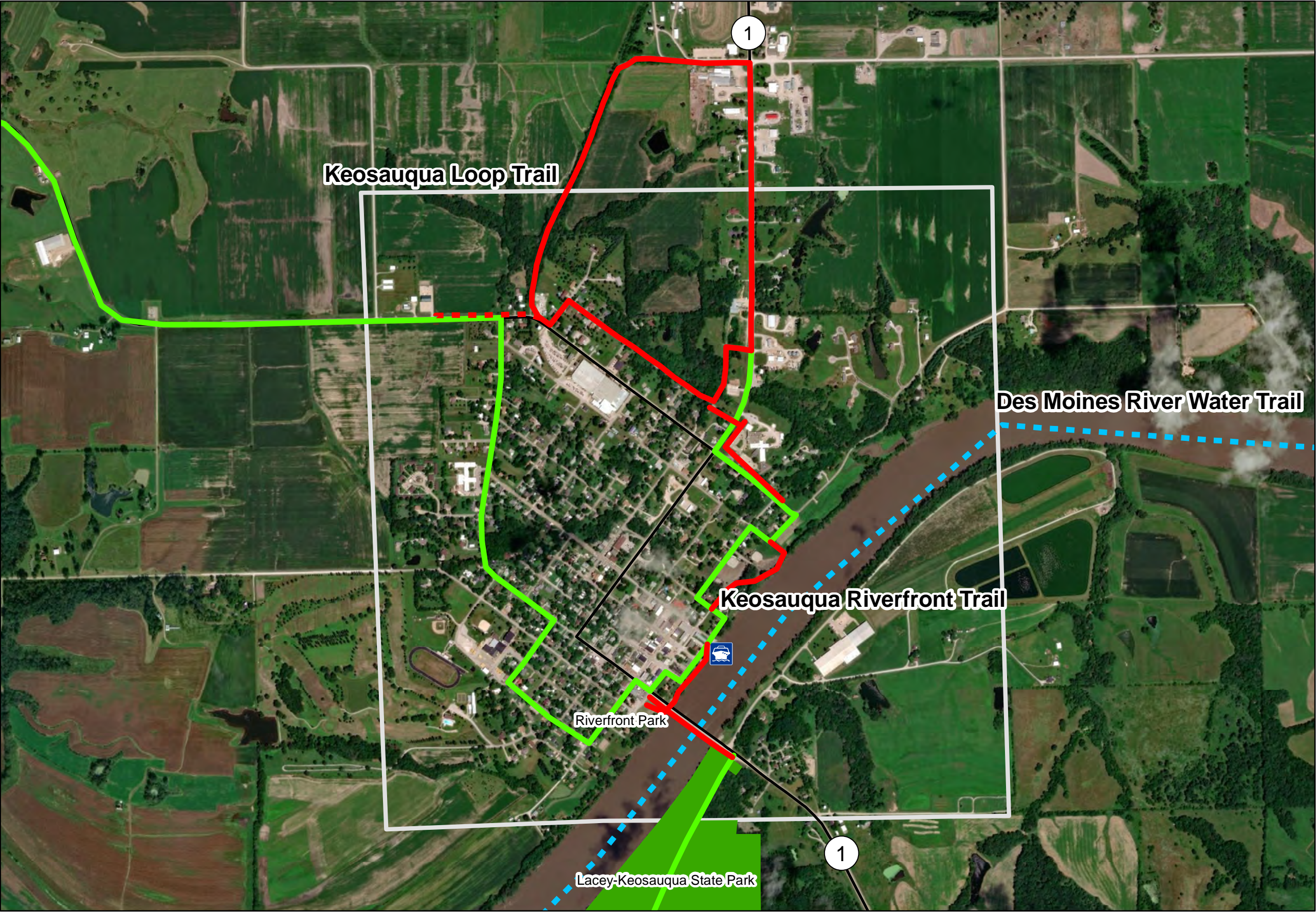
N

Keosauqua Loop Trail

Des Moines River Water Trail

Keosauqua Riverfront Trail

Riverfront Park

Lacey-Keosauqua State Park

Legend

—— Existing Trails

---- Proposed Trails

—— Signed bike routes

🚤 Water trail access

···· Water Trails

▇ Parks/Natural Areas

▢ Cities

▢ Counties

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT, Iowa
DNR, Van Buren County Trails
Association, Van Buren County
Conservation.
Date prepared: 4-26-19

0   0.125   0.25   0.5   0.75   1
Miles

Wapello County

Wapello County has a population of 35,044 people according to the 2017 American Community Survey. The county seat and largest city is Ottumwa, which has a population of 24,454. The county is made up of six other cities in addition to Ottumwa. The geography of the county is dominated by the Des Moines River that crosses diagonally from the northwest to the southeast. The river runs through the cities of Eddyville, Chillicothe, Ottumwa, and Eldon.

The Wapello County Trails Council is a non-profit community organization that was formed in 2006 to create a trail system in Wapello County. The council's original goal was to construct trails on the levees along both sides of the Des Moines River in Ottumwa (Map 6.9). This goal was completed in 2014. Another project of the council was to convert the Wabash Railroad Bridge into a pedestrian walkway. This was completed with volunteer help to re-deck the bridge and install fencing, creating a unique walkway over the Des Moines River. Their most recent project was an underpass under Highway 34 that connects the levee trail with Ottumwa Park. This was completed in 2016.

For more information:

Wapello County Trails Council.
www.wapellocountytrails.com

Wapello County Conservation Board.
conservation.wapellocounty.org
wapelloccb@netins.com
(641) 682-3091

Ottumwa Park Department.
www.cityofottumwa.com/departments/parks-and-recreation/
(641) 682-7873

Regional Transportation Enhancement and Transportation Alternative Program awards

1997   Eldon Gothic Park - $74,184

1997   Ottumwa Lagoon Trail - $132,089

2002   Market St to Quincy Av Trail - $85,857

2007   Market St to Vine St Trail - $38,735

2008   Gray Eagle Extension - $161,451

2009   South Loop Trail - $163,640

2010   Iowa Av to City Limits Trail - $131,654

The Eldon Trail Committee was formed in 2006 with the purpose to develop, preserve, promote and maintain trails in Eldon. The committee's first project was to construct a trail from Elm Street to the Des Moines River to 7th Street (Map 6.10). The Eldon Trail Committee's current project is to develop a trail through the Wapello County Fairgrounds.

Existing Trails

Eldon Gothic Trail:

- Maintained by: City of Eldon, Eldon Trails Committee and the Masons.
- Length: 1 ¼ miles.
- Surface type: Asphalt and Concrete.
- Connections: Downtown Eldon and American Gothic House.

Ottumwa Trail System (Map 6.11):

- Maintained by: City of Ottumwa.
- Length: 16 miles.
- Surface type: Majority is paved, one segment is gravel.
- Connections: Union Park, Ottumwa Park, The Beach Ottumwa Water Park, and Gray Eagle Wildlife Preserve.

Figure 6.12: A trailhead for the Eldon Gothic Trail is located at the American Gothic House and American Gothic House Center.

Dahlonega and Bladensburg Bike Routes:

- Maintained by: Wapello County Secondary Road Department.
- Length: 6 mile inner loop and a 17 mile outer loop.
- Surface type: Paved roadway.
- Connections: Indian Hills Community College.

Lower Des Moines River Water Trail:

- Maintained by: Wapello County Conservation Board and access point managers.
- Length: 3 miles in Wapello County.
- Access points: Eldon ramp.

Future Improvements

Trails and Bicycle Facilities:

- Paving the trail along the north levee from Turkey Island to Union Park.
- Connecting to Turkey Island.
- Paving the north levee on the east side of Ottumwa from where it splits to Iowa Av.
- Trail through the Wapello County Fairgrounds in Eldon, connecting the bike routes on Water St and Finney Av.
- Trail on the levee in Eddyville.
- Connecting Ottumwa to Eldon and then to the Jefferson County Trails as the American Gothic Trail.
- Implementation of the Ottumwa Bicycle and Pedestrian Plan (See Appendix).
- Incorporating pedestrian improvements into reconstruction/replacement of the Bus 63/Iowa 149/Wapello Street Extension viaduct.
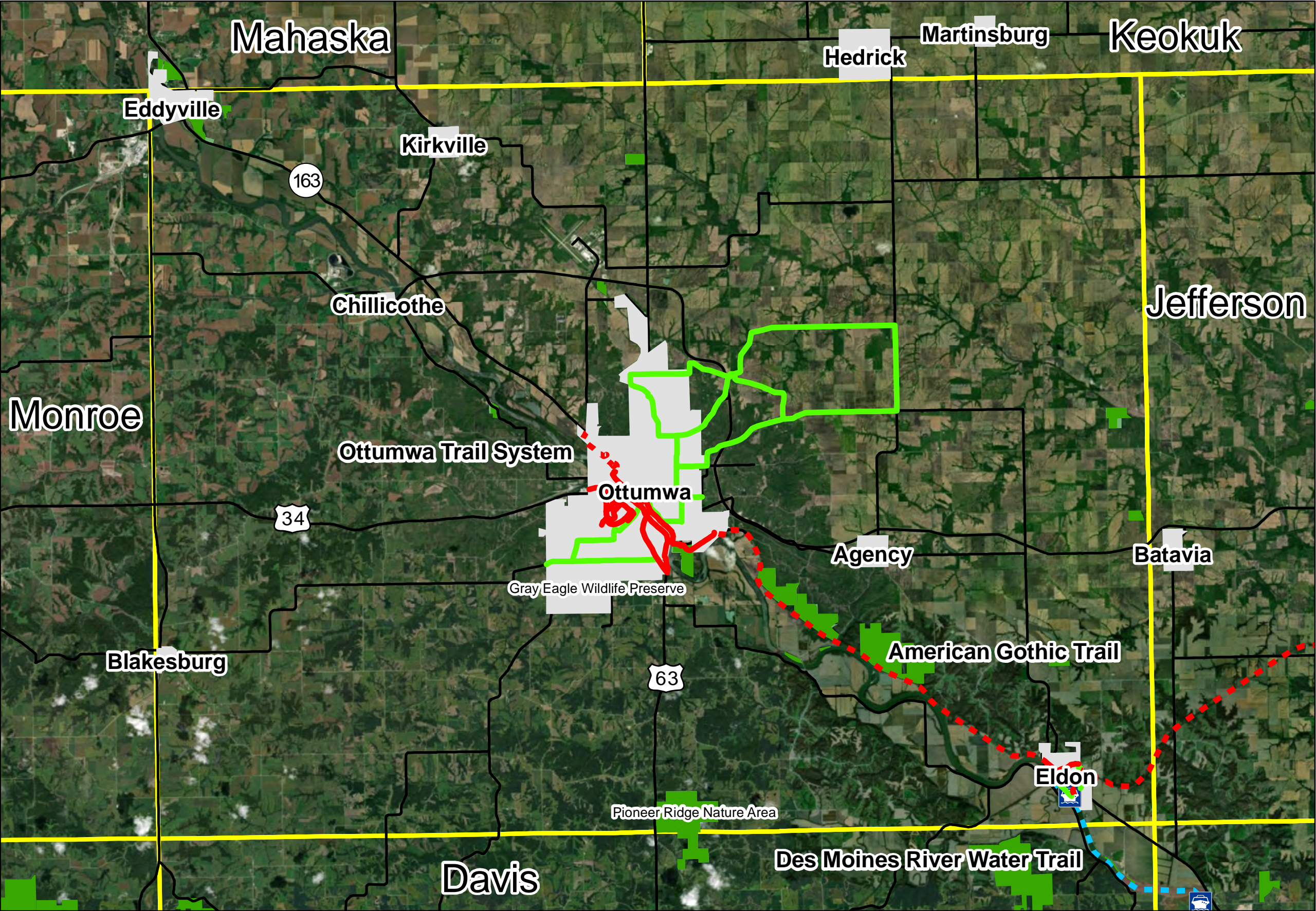
Trail Enhancements:

- Enhanced trailheads at Quincy Av, Wayside Park, the Beach, Wabash Bridge, and Gray Eagle.
- Benches, bike racks, informational kiosks and water fountains along the trails.
- Rest area along Brick Plant Rd near Highway 163.

Figure 6.13: The Wabash Railroad Bridge was converted to a trail bridge and now connects the levee trails across the Des Moines River.
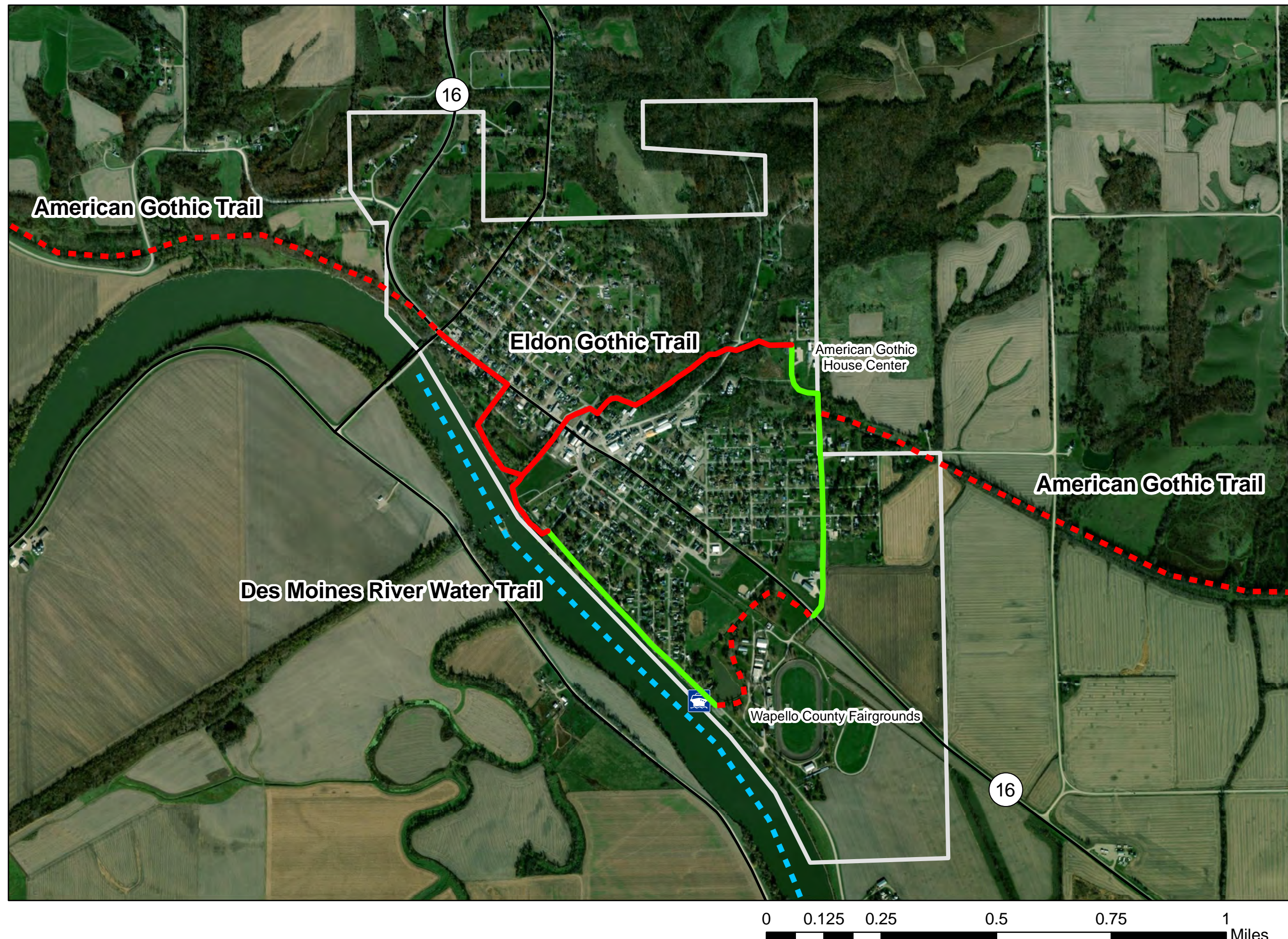
Map 6.9: Wapello County Bicycle and Pedestrian Facilities

Mahaska

Keokuk

Martinsburg

Hedrick

Eddyville

Kirkville

N

163

Chillicothe

Jefferson

Monroe

Legend

Ottumwa Trail System

— Existing Trails

---- Proposed Trails

— Signed bike routes

Ottumwa

Water trail access

Cities

Agency

Water Trails

Batavia

Gray Eagle Wildlife Preserve

Parks/Natural Areas

Counties

American Gothic Trail

Blakesburg

63

Eldon

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT, Iowa
DNR, Wapello County Trails
Council, Wapello County
Conservation.
Date prepared: 4-26-19

Pioneer Ridge Nature Area

Des Moines River Water Trail

Davis

| 0 | 1.5 | 3 | 6 | 9 | 12 |

Miles

Map 6.10: City of Eldon Bicycle and Pedestrian Facilities

N

American Gothic Trail

16

Eldon Gothic Trail

American Gothic House Center

American Gothic Trail

Des Moines River Water Trail

Wapello County Fairgrounds

16

Legend

— Existing Trails

- - - Proposed Trails

— Signed bike routes

⛴ Water trail access

••• Water Trails

■ Parks/Natural Areas

☐ Cities

☐ Counties

0   0.125   0.25   0.5   0.75   1
Miles

Map 6.11: City of Ottumwa Bicycle and Pedestrian Facilities

N

163

Indian Hills
Community College

Union Park

Memorial Park

Ottumwa Trail System

P P

P

P

Ottumwa Park

P

34

The Beach

P

Wildwood Park

P

Gray Eagle Wildlife Preserve

American Gothic Trail

34

63
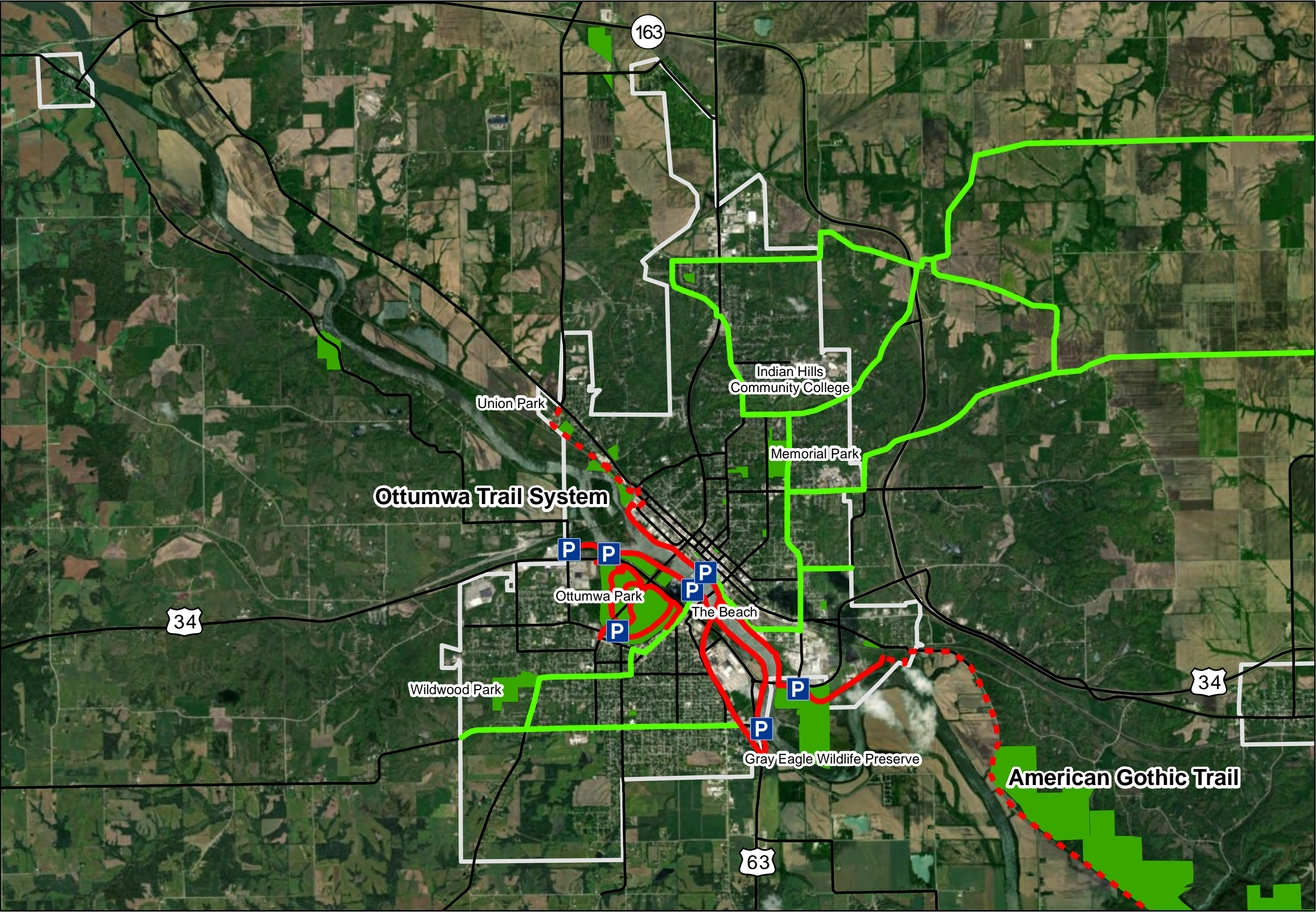
Legend

—— Existing Trails

- - - Proposed Trails

—— Signed bike routes

P Trailheads/Parking

- - - Water Trails

▉ Parks/Natural Areas

▢ Cities

▢ Counties

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT, Iowa
DNR, Wapello County, Wapello
County Conservation.
Date Prepared: 4-26-19

0   0.5   1   2   3   4
Miles
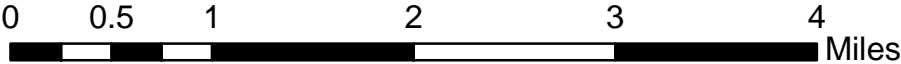
Priorities and Strategies for Future Investment

RPA 15 has several strengths and weaknesses relating to its trail development. Future trail development should capitalize on the strengths and address the deficiencies. One of the strengths is that four of the five counties have active trail groups. There are trails groups in Jefferson, Mahaska, Van Buren, and Wapello counties and these are the counties that have had the most success in developing trails. Within these counties, there are seven cities that have trails; Cantril, Eldon, Fairfield, Keosauqua, Milton, Oskaloosa, and Ottumwa. There is also local investment in the trails; cities have allocated funding to construct trails and trails groups have raised money through donations and fundraisers. These actions provide match for federal and state grants and show local commitment to the granting agencies.

The primary weakness of the trails development is that there have been no connections between local trails. There is no trail through the region or part of the region. There are communities within the region that have been active or interested in trails development that are relatively close. A trail between two cities, or between a community and a nearby park would make a good long distance trail. There is a plan to develop a regional trail, the American Gothic Trail, from Ottumwa, to Eldon, and to Fairfield. However development has been stalled due to the difficulties obtaining easements from landowners and the need for funding.

The following priorities and strategies have been identified for improving bicycle and pedestrian trails in Regional Planning Affiliation 15. These priorities are based on a review of previous trails plans, the Long-Range Transportation Plan, and meetings with trails group representatives and county conservation directors. Project applications for regional Transportation Alternative Program funds should be identified within section two of this plan or address the priorities and strategies identified below.

1. Priority: Expand and Improve access to trails.
   Strategies:
   - Create links from existing trails to neighborhoods without trail access.
   - Plan trails that will connect residential areas with activity or entertainment centers.
   - Provide trailheads that include parking, shelters, and benches.
   - Coordinate local trails development along state roads with the Iowa DOT.

2. Priority: Develop a regional trail system.
   Strategies:
   - Develop trails that link communities together or communities to parks, recreation areas, or other trails.

- Coordinate projects that benefit or impact multiple entities with other cities, counties, the RPA, and the Iowa DOT.

3. Priority: Develop safe trails and improve the safety of existing trails.
   Strategies:
   - Provide separation between trails or bike lanes and vehicle lanes in high traffic and high accident areas.
   - Mark and sign areas where a trail and road cross, use signals, or construct an underpass or overpass.
   - Install mileage markers and directional or informational signage to help trail users know their location.

Funding Sources

According to the Iowa Department of Transportation, the average cost for a mile of new trail is $375,000. This average is based on the lettings of trails within the state during the last year. The cost can vary considerably though depending on the following factors; whether the trail is paved or crushed stone, the width of the trail, if there is any land acquisition, and if there are any structures. Because of the cost and the availability of funding, constructing a trail may involve several funding sources and/or constructing it in phases as funding is obtained.

Federal and State Transportation Grants

Federal Recreational Trails Program:
- Awarding Agency: Iowa Department of Transportation
- Match Requirement: Minimum of 20%.
- Eligible Activities: Construction of trails, trail facilities, and linkages, acquisition of easements or property for trails and operation of educational programs related to trail environmental protection and safety.
- Website: https://iowadot.gov/iowabikes/iowa-trails/trails-funding.
- Application Deadline: October 1st.

State Recreational Trails Program:
- Awarding Agency: Iowa Department of Transportation.
- Match Requirement: Minimum of 25%.
- Eligible Activities: Construction of trails and trail improvements and land acquisition for trails.
- Website: https://iowadot.gov/iowabikes/iowa-trails/trails-funding.
- Application Deadline: July 1st.

Regional Transportation Alternatives Program:
- Awarding Agency: Regional Planning Affiliation 15.

- Match Requirement: Minimum of 20%.
- Eligible Activities: Construction of trails, sidewalks, bicycle and pedestrian infrastructure.
- Website: https://www.area15rpc.com/transportation-alternatives-program-1.
- Application Deadline: January 2nd.

Other Federal and State Grants

Resource Enhancement and Protection Program:
- Awarding Agency: Iowa Department of Natural Resources.
- Match Requirement: No local match required.
- Eligible Activities: Construction of trails, acquisition of easements or property for trails.
- Website: http://www.iowadnr.gov/Environment/REAP/REAPGrants.aspx.
- Application Deadline: August 15th.

Land and Water Conservation Fund:
- Awarding Agency: Iowa Department of Natural Resources.
- Match Requirement: Minimum of 50%.
- Eligible Activities: Observation and sightseeing trails, trail support facilities.
- Website: http://www.iowadnr.gov/InsideDNR/GrantsOtherFunding/LandWaterConservationFund.aspx.
- Application Deadline: See the website for details.

Community Attraction and Tourism Program:
- Awarding Agency: Iowa Economic Development.
- Match Requirement: See website for details.
- Eligible Activities: Construction of recreational trails.
- Website: https://www.iowaeconomicdevelopment.com/Community/EnhanceIowa.
- Application Deadline: See website for details.

Local and Private Organization Grants

PeopleforBikes Community Grant Program:
- Awarding Agency: PeopleforBikes.
- Match Requirement: See website for details.
- Eligible Activities: Construction of bike trails, paths, lanes, and bridges, BMX and mountain bike facilities, bicycle infrastructure.
- Website: http://www.peopleforbikes.org/pages/community-grants.
- Application Deadline: See website for details.

Wellmark Healthy Communities Small Grant Program:
- Awarding Agency: Wellmark.
- Match Requirement: No local match required.
- Eligible Activities: Construction of trails, sidewalks, bike lanes, bicycle infrastructure, acquisition of trail corridors.
- Website: http://www.wellmark.com/foundation/traditional-grants.html
- Application Deadline: See website for details.

Wellmark MATCH Grant Program:
- Awarding Agency: Wellmark.
- Match Requirement: 50% match required.
- Eligible Activities: Construction of trails, sidewalk connections, bike lanes, bicycle infrastructure, acquisition of trail corridors.
- Website: http://www.wellmark.com/foundation/traditional-grants.html
- Application Deadline: See website for details.

Greater Jefferson County Foundation Grant:
- Awarding Agency: Greater Jefferson County Foundation.
- Match Requirement: No local match required.
- Eligible Activities: Projects that benefit the residents of Jefferson County.
- Website: https://www.greaterjeffersoncountyfoundation.org/grants.
- Application Deadline: June 1st.

Mahaska County Community Foundation Grant:
- Awarding Agency: Mahaska County Community Foundation.
- Match Requirement: No local match required.
- Eligible Activities: Projects that benefit Mahaska County communities and organizations.
- Website: http://www.mahaskafoundation.org/
- Application Deadline: See website for details.

Bright Ideas Community Enrichment Fund:
- Awarding Agency: Ottumwa Regional Legacy Foundation
- Match Requirement: See website for details.
- Eligible Activities: Projects that enrich the quality of life for residents of Ottumwa and Wapello County.
- Website:http://www.orlf.org/for-grantees-scholars/bright-ideas-community-enrichment-fund/
- Application Deadline: See website for details.

Chapter 7: Rail, Air and Pipelines

Rail transportation is more efficient at moving heavy and bulk goods over long distances than other modes. Railroads are three times more fuel efficient as semi-trucks at moving goods, as a result the use of a railroad for shipping may be able to provide a reduced cost for a business. Because it is more fuel efficient, railroads are also more environmentally friendly than shipping by truck and pollute less.
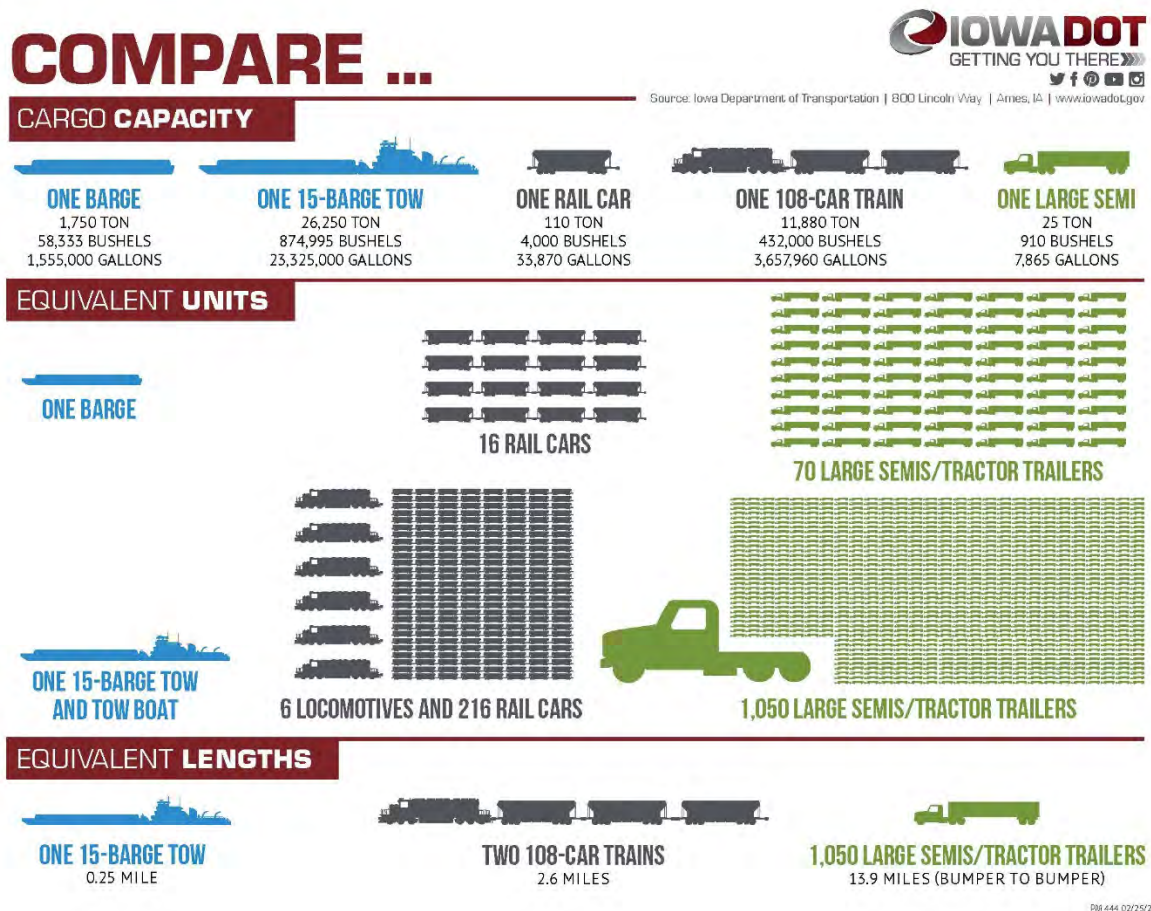
Air Transportation can move people and goods more quickly over long distances than other modes of transportation. As a result of this feature, airports can serve as transportation hubs and economic drivers where people and goods are drawn to and other transportation infrastructure and business is focused.

Pipelines are often not considered part of transportation but are used for the transport and delivery of oil, natural gas, and other products.

Railroads

The rail network in Iowa consists of 3,851 miles of track. The majority of this is owned by one of five Class 1 carriers: BNSF Railway, Canadian National Railway, Canadian Pacific Railway, Norfolk Southern Railway and the Union Pacific Railroad. In 2013 freight railroads carried 290 million tons of freight in Iowa, this is expected to increase to 442 million tons by 2040.

In addition to the freight railroads passenger rail service is provided by Amtrak on two routes; the California Zephyr and the Southwest Chief. In 2014, there were 57,000 passenger boardings at the six stations served by Amtrak.

The Iowa Department of Transportation is responsible for regulating rail transportation and for planning; this includes developing rail policy and legislation, advocacy and communications, administering funding programs for rail safety and improvement projects, performing track inspections. To assist with this the state has developed a State Rail Plan which was completed in 2017, the goals identified in the plan are:

- Enhance the Safety and Security of the Rail System.
- Maintain the Rail Infrastructure.
- Provide Access and Connectivity.
- Improve Efficiency.
- Ensure Economic Competitiveness and Development.
- Sustain the Environment.

Rail Lines and Rail Traffic Density

Four Class I railroads serve RPA 15. The Ottumwa Subdivision of the BNSF Railway (BNSF) runs east-west through Jefferson and Wapello Counties. The Norfolk Southern (NS) has trackage rights over the BNSF through the region. The Ottumwa and Laredo Subdivisions of the Canadian Pacific Railway (CP) run northeast-southwest through Keokuk and Wapello Counties. The Oskaloosa Subdivision of the Union Pacific Railroad (UP) runs north-south through Mahaska County. Rail lines are shown on Map 7.1.

A CP train hauls freight north of Ottumwa.

In addition to the Class I routes, the Burlington Junction Railway (BJRY) operates a transload facility near downtown Ottumwa and serves several customers each weekday in Ottumwa's Iowa Ave. industrial corridor. The BJRY interchanges with the BNSF.

The BNSF route running east and west through Jefferson and Wapello Counties is the most heavily used of the three rail lines as shown in figure 7.1. Each year an average of over 100 million gross tons per mile are moved through the region on the track. This is also the third most heavily used route within the state after the UP route that goes through Ames and the route through Fort Madison. The CP route, while having lower tonnage than the BNSF, also shows a higher density in Keokuk County than near Blakesburg. This is due to some eastbound coal trains transferring from the BNSF to the CP at Ottumwa. Also, there is a tank farm (Quest Liner) west of Ottumwa along the CP where some goods may be unloaded.

Figure 7.1: Rail Density in Million Gross Tons per Mile						
Railroad	Line Segment	2010	2012	2013	2015	2016
BNSF	E of Jefferson Co	117.00	106.00	109.00	115.00	109.00
BNSF	Wapello Co near Chillocothe	117.00	107.00	113.00	123.00	109.00
CP	Keokuk Co	11.80	10.81	14.30	18.49	16.11
CP	Wapello Co near Blakesburg	10.00	9.41	9.80	11.18	10.43
UP	Mahaska Co between Beacon and Eddyville	2.20	1.23	0.98	0.99	1.04
Source: Iowa DOT Rail Tonnage Maps						

Passenger Rail Service

The region is served by Amtrak's California Zephyr line that runs from Chicago, Illinois to Oakland, California with stops in Omaha, Denver and Salt Lake City. The California Zephyr makes use of BNSF tracks while traveling through Iowa. The station in Ottumwa is along this route and is served by two passenger trains per day, the eastbound train stops in Ottumwa at 9:09am daily and the westbound train stops at 6:57pm daily. In 2018 there were a total of 11,043 instances of boarding and alighting in Ottumwa, this is a decrease from 2017 when there were 12,209 instances of boarding and alighting. The instances of boarding and alighting in 2016 was similar to 2017 with 12,155 passengers using the station.

Base fares from Ottumwa to other major cities along the routes and travel times are shown in figure 7.2. These prices are for a coach seat on a one-way trip, upgrades for a superliner roomette or a private bedroom increase the price. Also, base tickets do not include meals or drinks, while roomettes and private bedrooms do include meals, bottled water and other amenities.

Figure 7.2: AMTRAK Ticket Costs and Travel Times on the California Zephyr from Ottumwa			
Direction	Destination	Cost Per Ticket	Travel Time (hours)
East	Chicago, IL	$48	6
West	Denver, CO	$155	14
West	Salt Lake City, UT	$141	30
West	Oakland, CA	$246	49
Source: Amtrak.com Accessed: January 4th, 2019			

Amtrak offers comparable travel times for trips from Ottumwa to Chicago or Denver. It has the advantage over driving of allowing passengers to relax or engage in other activities. The problem is that travel times and arrival times can be longer and later than estimated. This is due to the passenger service having to share track in almost ¾ of the areas it operates with freight traffic and being subject to operating decisions made by other railroads. Another advantage of Amtrak over other modes of transportation is that the stations

Amtrak's California Zephyr stops at the Ottumwa station.

are located in the downtown or the center of the city, so they are near the attractions. However, an issue is that Amtrak stations may offer less amenities and services compared to an airport.

Another Amtrak route, the Southwest Chief, operates from Chicago, Illinois to Los Angeles, California and stops in Kansas City, Albuquerque and Flagstaff. While the Southwest Chief does not stop within the region, there is a station approximately two hours away in Fort Madison. Similar to the California Zephyr, two trains per day operate on this route, the eastbound train stops in Fort Madison at 10:49am daily and the westbound train stops at 6:30pm daily. Also similar to the Zephyr, the Southwest Chief operates on BNSF tracks in Iowa.

Proposed Improvements

Amtrak station and transit-oriented development area

The Amtrak station on the California Zephyr line through downtown Ottumwa is a tremendous asset. This station can serve as the center of a historic and a transit-oriented development (TOD) area. This potential was recognized, and the Ottumwa Regional Legacy Foundation commissioned a study to develop a strategy to use the station to its potential in the redevelopment of the TOD. Redevelopment opportunities identified in the plan include: improvements to the Amtrak station and platform, parking and wayfinding signage, incorporation of multi-modal connectivity and the development of Ottumwa as an excursion destination on the Chicago to Omaha corridor.   A more detailed discussion of this project is included in Chapter 5: Passenger Transportation Services.

Rail Crossing Location and Type

There are 162 rail crossings within the region, of these 111 are at-grade crossings while the remaining fifty-one are grade-separated. A majority (61) of the at-grade crossings have passive warning devices (i.e. crossbucks). These crossings are located on low traffic volume roads. Twenty-four of the crossings have crossbucks and flashing lights, and 40 crossings have crossbucks, flashing lights and gates. The crossings with gates are more likely in a city or on high volume roads. Map 7.2 shows the location of the at-grade crossings and the type of crossing.

In 2018 there were zero rail crossing crashes in the region. Rail crossing safety and rail safety in general will be discussed in more detail in Chapter 8: Safety and Security. There are issues with delays at two crossings on the Canadian Pacific rail line on the east side of Ottumwa at crossings on Quincy Avenue and at 163rd Avenue. This is due to trains stopping and blocking the crossings during switchings, changing crews or other operations. There are also delays on the CP line south of Blakesburg at the crossing on County Road T7J (Monroe-Wapello Road) due to a switch.

Proposed Improvements

Ottumwa Rail Port Relocation

In addition to local switching operations, the BJRY operates a rail port adjacent to the BNSF in Ottumwa on the edge of downtown. Bulk products are transloaded between railcars and tractor-trailers, inducing heavy truck traffic within the downtown district. The recent installation of quiet zone crossing improvements has made turning movements more difficult for trucks. An upcoming reconstruction project on E. Main Street will further encumber the movement of truck traffic through downtown. Planning processes that seek

Current arrangement of the BJRY rail port near downtown Ottumwa.

to revitalize and redevelop the riverfront area between downtown and the Des Moines River are underway. Intensified commercial and residential land uses would further limit the functionality of the rail port in its current location.

The Ottumwa Economic Development Corporation (OEDC) has secured funding to use as match for a rail port relocation feasibility study as a proactive means to retain the existing business of the facility and identifying expansion potential. It is anticipated that the OEDC will apply for a Rail Port Planning and Development Grant from Iowa DOT's Railroad Revolving Loan and Grant (RRLG) Program to investigate relocating the rail port out of downtown to a site approximately three-quarters of a mile to the east near Iowa Avenue. As the primary industrial road in Ottumwa, Iowa Avenue was recently reconstructed for heavy truck traffic and has direct connections to all major highways into and out of Ottumwa.

Aviation

Aviation facilities in Iowa consist of public use 117 airports, which include eight commercial and 109 general aviation facilities. In 2008 there were 1.5 million commercial enplanements from commercial airports in the state, this is expected to increase to 3.1 million enplanements by 2030. The the number of based aircraft is anticipated to increase by almost 800 aircraft and aircraft operations are projected to increase over 250,000 operations.

Location of Airports and Level of Service

Aviation facilities within the region include four airports shown on map 7.3. These include two enhanced service airports; located outside Ottumwa and Fairfield, a general service airport in Mahaska County, and a local service airport in Keosauqua. There are also plans to develop a new regional airport for Oskaloosa and Pella northwest of Oskaloosa dependent on funding. If this airport is developed the current Oskaloosa airport will be closed.

Enhanced Service airports have runways that are 5,000 feet or greater in length, full time staffing during business hours and FBO staffing 24 hours a day. Enhanced Service facilities can accommodate all types of general aviation activity and most business jets. General service airports have runways that are 4,000 feet in length or greater and staffing during normal business hours. General Service facilities can support most general aviation operations and small to medium sized business jets. Local Service airports have turf runways and provide little or no services. Local service facilities support local aviation and are unable to support any other roles.

Distance to Commercial Service Airports

In order to use commercial air service, residents of the region must travel between ninety minutes and six hours. Commercial air service airports around the region and their time distance away are identified in figure 7.3.

Figure 7.3: Distance to Commercial Service Airports			
Airport	Travel Time	Airport	Travel Time
Burlington	90 minutes	Kansas City	4 hours
Cedar Rapids	2 hours	St. Louis	5 hours
Des Moines	2 hours	Minneapolis	5 hours
Moline	2 1/2 hours	Chicago	6 hours
Omaha	4 hours		

Prior to 2002 Ottumwa's airport offered commercial flights through Great Lakes Airlines (United Express). This service operated under the Essential Air Service program, which subsidized the cost of the service and controlled ticket prices. During this time period, Ottumwa had flights to Chicago, however the service ended due to low usage. This was due to a lack of promotion and flights frequently being cancelled or rescheduled. Cancellations and rescheduling occurred due to too few passengers using the service and the cost of the flight being too high. This is due to the Essential Air Service program having a cap on the maximum per passenger cost. With few passengers using

the service, the cost often exceeded the allowed amount, and Ottumwa often struggled to keep passenger costs within EAS limits to maintain commercial air service.

Since the loss of Great Lake Airlines in 2002 the City of Ottumwa had solicited proposals to provide commercial air service on multiple occasions however none of these have been acted upon due to their cost to the city. These have included a proposal from Air Exec and a proposal for scheduled service from Angel Air in 2006 using funding from the Small Community Air Service Development Program to get started. Due to the lack of support from the community and surrounding cities and counties neither of these proposals proceeded.

Ottumwa is currently exploring a proposal for commercial air service by Air Choice One to Burlington. From Burlington passengers would be able to fly to Chicago, Mason City, Minneapolis or St. Louis. In order to start this service, it is proposed that the Small Community Air Service Development Program be used to assist with funding for the first year.

Existing Airport Facilities and Proposed Improvements

Fairfield Municipal Airport (FFL)

The Fairfield Municipal Airport is located north of the City of Fairfield along Iowa Highway 1. The airport classified as an Enhanced Service Airport by the Iowa DOT and has a 5,500-foot concrete primary runway. The airport also has a 2,300-foot secondary turf runway, 33 hangar parking spaces and 17 parking locations on the apron. The airport is recognized by the FAA in the National Plan of Integrated Airport Systems as a general aviation airport, and eligible for

Aerial view of the Fairfield Municipal Airport.

federal funding. In 2015 the Fairfield airport had 28 based aircraft and saw 7,000 aircraft operations, this is expected to increase to 33 based aircraft and 8,250 aircraft operations by 2030 per the Iowa Aviation System Plan.

Figure 7.4 contains proposed improvements for the Fairfield Municipal Airport from airport's capital improvement plan. The reconstruction of the taxiway to the T-hangars

is necessary due to deterioration of the existing pavement and has the potential to cause foreign object damage due to the spalled concrete. The taxiway will also be widened during reconstruction to meet current FAA standards. A new fuel tank farm is necessary to meet the demand of increased jet and agricultural aviation traffic that the airport is seeing.

Figure 7.4: Fairfield Municipal Airport Projects		Total Cost	Federal Funding	State Funding
Year	Project			
2020	Airfield Pavement Rehab Phase 3: Reconstruct Taxiways to T-Hangars	$590,000	$531,000	$0
2022	Replace Fuel Farm	$900,000	$0	$765,000
2024	Airfield Pavement Joint Sealing	$110,000	$99,000	$0
2025	Snow Removal Equipment	$200,000	$180,000	$0
2026	Construct Taxiway	$150,000	$135,000	$0
2027	Construct T-Hangar	$725,000	$652,000	$0
2028	Site work, Auto parking apron extension for corporate hangar	$150,000	$0	$127,500
2029	Construct Corporate Hangar	$600,000	$540,000	$0
Source: Fairfield Municipal Airport 2020-2024 Capital Improvement Program				

Keosauqua Municipal Airport (6K9)

Keosauqua Municipal Airport is east of the City of Keosauqua on County Road J40. It is classified as a Local Service Airport by the Iowa DOT and has a 2,275 foot turf runway. It also has four hangar parking spaces and four tie-down locations. The FAA does not recognize the airport in the National Plan of Integrated Airport Systems and as a result it is not eligible for federal funding. In 2015 the Keosauqua Airport had one based aircraft and saw 250 aircraft operations, this is expected to hold steady through 2030 according to the Iowa Aviation System Plan.

A new hangar was recently completed at the Keosauqua airport adding space for two additional single engine aircraft to be within hangars. Previously there was only space for two aircraft within a hangar, this doubles the capacity. There are no other capital improvement projects planned for the airport.

Oskaloosa Municipal Airport (OOA)

The Oskaloosa Municipal Airport is located southeast of the City of Oskaloosa along Iowa Highway 23. The airport is classified as a General Service Airport by the Iowa DOT and has a 4,003 foot concrete primary runway. The airport's secondary runway is a 1,925 foot concrete surface, it also has 35 hangar parking spaces and 14 apron parking locations. The airport is included in the FAA's National Plan of Integrated

Airport Systems as a general aviation airport and is eligible for federal funding. The Oskaloosa Airport had 37 based aircraft and 12,950 aircraft operations in 2015, according to the 2010 Iowa Aviation System Plan this is projected to increase to 45 based aircraft and 15,750 aircraft operations by 2030.

The Oskaloosa airport updates its capital improvement program each year. The FAA requires that the city maintain the current airport until the new airport is operational. The FAA limits funds to the current airport for maintenance and safety while the new South Central Regional Airport is in development. For 2019, the Oskaloosa airport plans to do pavement patching on the cross runway, the cost of this project is $450,000 and $405,000 would be federal funding. An apron patching project is planned for 2022 to maintain the functionality of the airport until the regional airport is completed. The cost of this project is $400.000. Other projects though, such as reconstructing the primary runway, the taxiway, the apron, constructing new hangars or a new fuel farm will not happen unless the new regional airport is delayed or cancelled. When the new airport opens, the Oskaloosa airport will be closed and the funds from the sale of the property will be invested into the new regional airport.

Ottumwa Regional Airport (OTM)

The Ottumwa Regional Airport is location north of Ottumwa along Iowa Highway 163. The Iowa DOT classifies the airport as an Enhanced Service Airport as it has a 5,885 foot primary runway. The airport also has a 4,600 foot secondary runway, hangar space for 48 aircraft and apron parking for 29 aircraft. The airport is part of the FAA's National Plan of Integrated Airport Systems as a general aviation airport and eligible for federal funding. The Ottumwa airport had

Single engine aircraft on the apron at the Ottumwa Regional Airport.

37 based aircraft in 2015 and 12,950 aircraft operations, this is expected to increase to 45 based aircraft and 15,750 aircraft operations by 2030 according to the Iowa Aviation System Plan.

Figure 7.5 identifies proposed improvements for the Ottumwa Regional Airport from the airport's capital improvement plan. In addition to the projects listed in the table, there are two projects not listed that were part of a previous CIP. One is a total reconstruction of the primary runway that would also increase the length from 5,885 feet to 6,001 feet,

which would allow any aircraft to land in an emergency. The project includes a new concrete surface that dries faster and new approach and edge lighting. It is scheduled to start in March 2019 and has a total cost of $7 million and 90% federal funding. The second project is an apron reconstruction to replace the current apron that is 70 years old. It is scheduled for late summer 2019 and is estimated to cost $286,000 with 85% state funding.

Figure 7.5: Ottumwa Regional Airport Projects		Total Cost	Federal Funding	State Funding
Year	Project	Total Cost	Federal Funding	State Funding
2019	Apron Improvements	$350,000	$0	$297,500
2020	Runway 4/22 and Taxiway Crack Cleaning and Slurry Sealing	$491,940	$442,746	$0
2021	Apron Improvements	$335,500	$0	$285,175
2022	Apron Rehabilitation	$1,875,000	$1,687,500	$0
2023	3-Box Hangar Construction	$513,830	$462,447	$0

Source: Ottumwa Regional Airport 2019-2023 Capital Improvement Program

South Central Regional Airport

The South Central Regional Airport is being developed northwest of Oskaloosa along Iowa Highway 163 as a 28E agreement between the cities of Oskaloosa and Pella, as well as Mahaska County. The airport is estimated to cost $30 million and is targeted for completion in 2024. Land acquisition is currently in process and is expected to continue for the next three years. Once this is complete the next step will be to start construction, the first part grading and drainage is anticipated to take one year. Once this is complete work can start on paving, lighting and vertical infrastructure, this is anticipated to take another year.
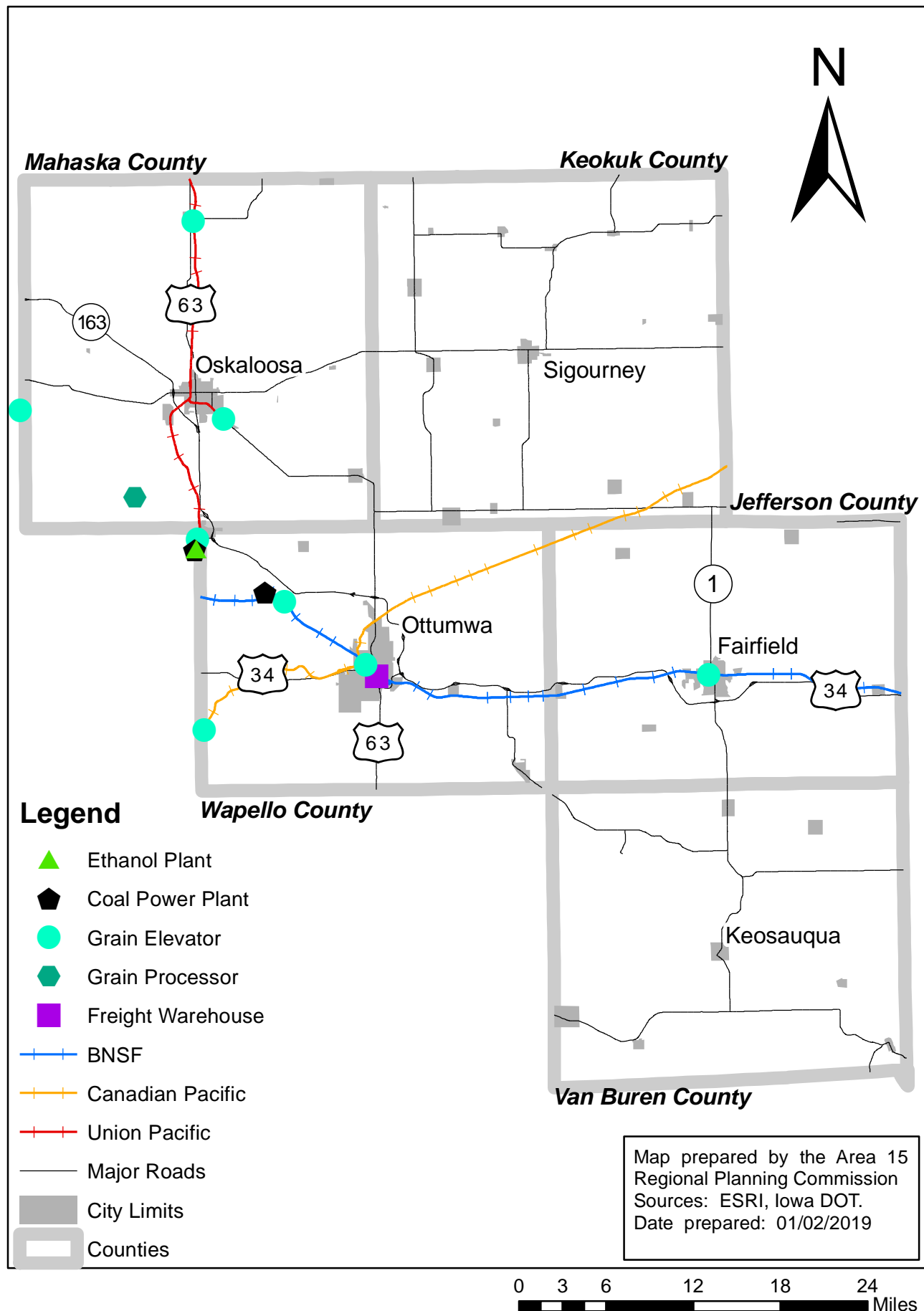
The airport will initially have a 5,500 foot paved primary runway, and ultimately will be extended to 6,700 feet. It will provide storage for 50 aircraft.   A second crosswind runway will be added in ten to twenty years. The airport will meet Iowa DOT's classification for an Enhanced Service Airport and will serve as a general aviation airport. The airport is forecast to have 72 based aircraft in a horizon year of 2040, total yearly aircraft operations are forecast to increase from 14,700 in the first year of operation to 21,102 in the 2040. Consolidating services to a single airport will be more effective for Oskaloosa and Pella to maintain and improve aviation services. It will also reduce the environmental footprint by only having one airport operating as the older airports are shut down and sold off.
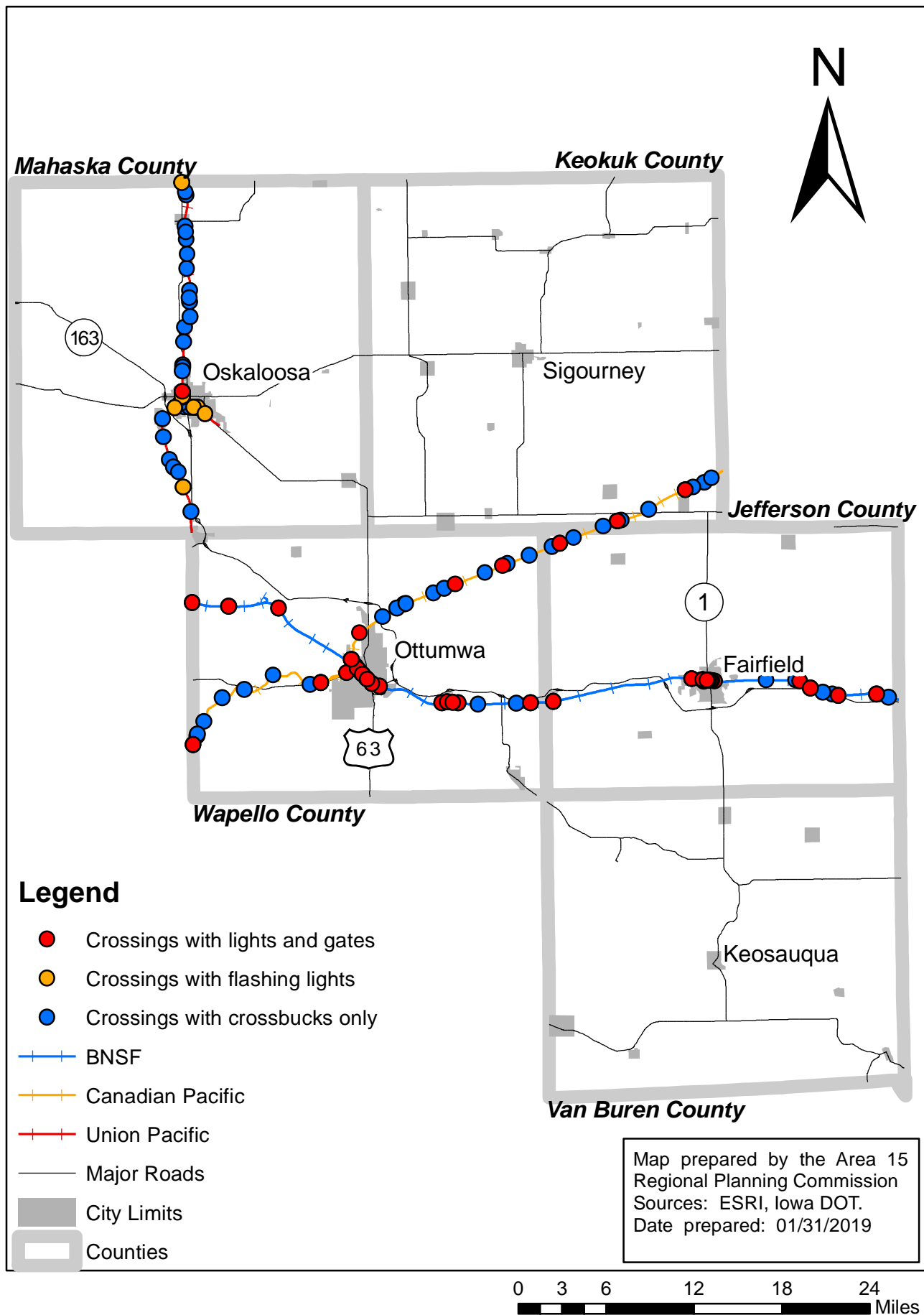
Pipelines

Pipelines are an unseen mode of freight transportation but are still important, they carry natural gas, oil, and other gas and liquid products. In Iowa, there are a total of 13,075 miles of transmission pipelines. These are used for carrying gas or liquid products over long distances. There are also many thousands more miles of distribution pipeline that are used for carrying products to businesses or homes.   Figure 7.6 shows the mileage of transmission pipelines within the state by product.   The general locations of transmission pipelines within the region are shown on map 7.4. All pipelines within the region are privately owned and maintained. It is important to be aware of a pipeline's location and product from both a planning and safety perspective, and a preparedness to deal with a pipeline incident if one should occur.

Figure 7.6: Miles of Transmission Pipeline in Iowa, 2017		
Type of Pipeline	Mileage	Percent of Mileage
Natural Gas	8,341	64%
Crude Oil	743	6%
Refined Petroleum Products	1,748	13%
HVL Flamm Toxic	2,243	17%
Total Mileage	13,075	
Source: US DOT PHMSA, www.phmsa.dot.gov		
Accessed: January 11th, 2019		

Map 7.1: Rail Lines and Freight Generators in the Region

N

Mahaska County

Keokuk County

63

163

Oskaloosa

Sigourney

Jefferson County

1

Ottumwa

Fairfield

34

34

63

Legend

▲ Ethanol Plant

⬟ Coal Power Plant

● Grain Elevator

⬢ Grain Processor

■ Freight Warehouse

+—+— BNSF

+—+— Canadian Pacific

+—+— Union Pacific

—— Major Roads

City Limits

Counties

Wapello County

Keosauqua

Van Buren County

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT.
Date prepared: 01/02/2019

0   3   6   12   18   24
                                   Miles

Map 7.2: Rail Crossings and Type of Crossing

N

Mahaska County

Keokuk County

163

Oskaloosa

Sigourney

Jefferson County

1

Ottumwa

Fairfield

63

Wapello County

Keosauqua

Van Buren County

Legend

🔴 Crossings with lights and gates

🟠 Crossings with flashing lights

🔵 Crossings with crossbucks only

—+— BNSF

—+— Canadian Pacific

—+— Union Pacific

— Major Roads

■ City Limits

☐ Counties

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT.
Date prepared: 01/31/2019

0 3 6   12   18   24
                                    Miles

Map 7.3: Airports within the Region

Mahaska County

Keokuk County

N

63

163

Oskaloosa

Ottumwa

Jefferson County

163

Fairfield

34

34

1

63

Keosauqua

Wapello County

Van Buren County

Legend

City Limits

Major Roads

Counties

Airport Classification

Enhanced Service

General Service

Local Service

Proposed Airport

0   3   6   12   18   24
Miles

Map 7.4: Pipelines within the Region

N

Mahaska County

Keokuk County

63

163

Oskaloosa

Jefferson County

163

1

Ottumwa

Fairfield

34

34

63

Wapello County

Keosauqua

Legend

━━━ Hazardous Liquid Pipeline

━━━ Natural Gas Pipeline

City Limits

── Major Roads

Counties

Van Buren County

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT, US
DOT PHSMA.

0   3   6   12   18   24
Miles

Chapter 8: Safety and Security

Safety and security are important concerns for the transportation system. The movement of people and goods can become dangerous in areas if there are safety issues. Security concerns, whether real or perceived, can interfere with the efficient movement of people and goods using any mode of transportation. A safety or security incident may disrupt the transportation system on a large scale and have other negative effects. Transportation agencies should work with other agencies and with policymakers on how to improve the safety and security of the transportation system.

State Level Planning - Safety

The Iowa Department of Transportation performs a significant portion of the state level safety planning on the transportation system in Iowa. A large part of this is focused on the road system and reducing the number of crashes. The Iowa DOT provides crash information in several formats on its website as well as information about safety plans and programs to reduce crashes. Some of the DOT's safety programs not only seek to address crashes on the primary road system but on county and city road systems as well.

Three areas of the Iowa DOT's state level planning will be talked about in this chapter; the Strategic Highway Safety Plan, Top 200 Safety Improvement Candidate Location List and the funding programs for safety improvements. Iowa's Strategic Highway Safety Plan is a document that provides a coordinated vision for reducing injuries and fatalities on all public roads. The Top 200 SICL is a list of intersections in need of safety improvements rated by traffic volumes, number of crashes and severity. There are funding sources managed by the DOT are available to help cities and counties implement safety improvements.

Iowa Strategic Highway Safety Plan

The Strategic Highway Safety Plan is a statewide plan that provides guidance for reducing injuries and fatalities on all Iowa roads. It aligns state with the national vision to eliminate all fatalities on public roads. The plan sets goals for the state to reducing those numbers and reviews the progress made. It establishes five categories or five "E's" of focus: education, emergency medical services, enforcement, engineering and everyone. And the plan also defines eighteen areas of emphasis, these are areas where safety strategies will have the greatest potential to reduce injuries and fatalities.

In the SHSP eight of the areas of emphasis are priorities and have strategies developed for them, these areas are: lane departures and roadside collisions, speed related, unprotected persons, young drivers, intersections, impairment, older drivers and distracted or inattentive drivers.

The Current Strategic Highway Safety Plan was adopted in 2019. Crash data from the plan shows that Iowa saw an increase in fatal crashes between 2015 and 2016 of 26.5%. This was the largest increase in fatal crashes in the decade. Younger drivers and older drivers represented over 35% of those involved in the fatal and serious injury crashes. A large percentage of the fatal and serious injury crashes are occurring in rural areas and on county or municipal roads.

The Strategic Highway Safety Plan developed strategies for improving safety the eight areas of emphasis that were determined a priority and identified the category or agency of focus for each strategy. several areas. Figure 8.1 summaries the strategies, their area of emphasis and category of focus.

Figure 8.1: Strategies Identified in the Strategic Highway Safety Plan

Strategy	Area	Emphasis
Evaluate high lane departure crash corridors	Enforcement	Lane Departures
Evaluate high-friction surface treatments	Engineering	
Place centerline and/or shoulder rumble strips on rural 2 lane highways	Engineering	
Continue cable median barrier installations	Engineering	
Focus on the road, don't over-correct or veer into objects or animals	Everyone	
Educate drivers on controlling and managing vehicle speed	Education	Speed-related
Identify corridors with high frequency of speed related crashes	Enforcement	
Evaluate and implement signing and geometric design to moderate speed	Engineering	
Implement speed feedback signs at targeted locations	Engineering	
Give yoursefl enough time to reach your destination	Everyone	
Conduct public awarness on risks of unprotected persons	Education	Unprotected persons
Indlude medical personnel in education efforts	Emergency	
Conduct highly publicized enforcement focused on restrained use	Enforcement	
Buckle up everyone and every time	Everyone	
Improve content and delivery of driver education	Education	Young drivers
Continue educating young drivers including on impairment	Education	
Support a coalition to address age based transportation needs	Education	
Support young drivers to avoid distractions and impairment	Everyone	
Develop educational resources to inform the public of interection types	Education	Intersections
Conduct enforcement related to bicycle and pedestrians at intersections	Enforcement	
Use systemic approaches to improve visability of intersections	Engineering	
Implement alternative intersection design to reduce conflict	Engineering	
Develop an intersection evaluation tool in selecting intersection types	Engineering	
Approach intersections with caution and get familiar with new designs	Everyone	
Educate drivers on impairment and effects on driving	Education	Impairment involved
Employ screening and interventions in healthcare settings	Emergency	
Support training for new drug recognition and enforcement officers	Enforcement	
Develop and implement a standard approach to identify impaired drivers	Enforcement	
Expand 24/7 program, place of last drink, and ignition interlock	Enforcement	
Enhance detection through special OWI patrols	Enforcement	
Implement countermeasures to reduce wrong way driving	Enforcement	
Designate a driver, call a cab	Everyone	
Support a coalition to address age based transportation needs	Education	Older drivers
Provide education for older drivers that address age related concerns	Education	
Update publications and resources for older drivers and their families	Education	
Update procedures for asessing medical fitness to drive	Emergency	
Know when to put keys down, when to leave converation	Everyone	
Develop targeted interventions for high-risk populations	Education	Distracted drivers
Support high-visibility enforcment for hands-free cell phone law	Enforcement	
Put the cell phone down, avoid distractions, be alert, focus on road	Everyone	
Source: 2019 Iowa Strategic Highway Safety Plan		
https://iowadot.gov/traffic/shsp/home		
Accessed: May 10th, 2019		

Top 200 Safety Improvement Candidate Location List

The Top 200 SICL list are intersection locations across the state on the primary and local system that have been identified for safety improvement. These areas have been identified based on the number, frequency and severity of crashes and the traffic volume of the intersection. Figure 8.2 lists the intersections from the Top 200 SICL list that are in the region.

Figure 8.2: Top 200 Safety Improvement Candidate Location Intersections in RPA 15			
SICL Num	City	County	Intersection Location
194		Keokuk	IA 78 and V 63 / 270th Ave
156		Mahaska	IA 92 and Osborn Ave
39		Wapello	US 63 and Eddyville Rd
44		Wapello	US 63 and J12 / River Rd
85	Ottumwa	Wapello	IA 149 / Wapello St and W 4th St
99	Ottumwa	Wapello	US 34 and IA 149 and Wapello St
Source: 2012-2016: Safety Improvement Candidate Locations - Intersections			
https://iowadot.gov/crashanalysis/top200.aspx			
Accessed: December 27th, 2018			

Funding Programs for Safety Improvements

There are several state and federal programs available to help cities and counties fund safety improvements. These programs may help with replacing signs, installing/replacing traffic control devices, improving traffic operations, reducing crashes and performing safety studies. The programs listed below are administered by the Iowa DOT to assist local jurisdictions with safety improvements.

County-State Traffic Engineering Program (C-STEP): Provides funds to counties to address traffic operation and safety problems on primary roads outside incorporated cities. May be used for two types of projects: spot improvements that are a single location and linear improvements. Spot improvements have a county match of 45 percent and have a maximum of $200,000 per project. Linear improvements where the county accepts jurisdiction after completion the county match is 40 percent and has a maximum grant of $90,000 per mile for rehabilitation and $150,000 per mile for reconstruction. When the state retains jurisdiction the county match is 70 percent and the maximum grant amount is $45,000 per mile for rehabilitation and $75,000 per mile for reconstruction. Applications are accepted year-round.

Iowa Traffic Engineering Assistance Program (TEAP): Provides traffic engineering assistance to cities and counties that do not have a traffic engineer. May be used to study high crash locations, unique lane configurations, obsolete traffic control devices, school pedestrians, truck routes, parking issues and other traffic studies. The purpose of the program is to identify cost effective improvements and funding sources that can be implemented.   Applications are accepted until funding is exhausted. https://iowadot.gov/traffic/traffic-and-safety-programs/traffic-engineering-assistance-program-teap

Traffic Safety Improvement Program (TSIP): Funds from the program may be used on any roads under city, county or state jurisdiction. Eligible projects include: site specific traffic safety improvements, new or replacement of obsolete traffic control devices, research studies or public information initiatives. Site specific projects have a maximum grant amount of $500,000. All types of project applications are due August 15th. https://iowadot.gov/traffic/traffic-and-safety-programs/tsip/tsip-program

Urban-State Traffic Engineering Program (U-STEP): Provides funds to cities to address traffic operation and safety problems on primary roads inside incorporated cities. May be used for two types of projects: spot improvements that are a single location and linear improvements span two or more intersections. City match is 45 percent and the maximum grant amount is $200,000 for spot improvements and $400,000 for linear improvements. Applications are accepted year-round.

Highway Safety Improvement Program – Secondary (HSIP-Secondary Program): Counties may use funds for low-cost systemic improvements on secondary roads. Eligible projects are located on secondary roads that have a crash history or at-risk characteristics, projects are lost cost ($10,000 per mile) and systemic (along a entire corridor). There is a 10 percent local match, which is funded through the TSIP program, resulting in no cost to the county. Applications are accepted until funding is exhausted. https://iowadot.gov/traffic/sections/hsip

Highway-Railroad Crossing Safety Program: Provides funds to railroad companies, cities and counties to improve the safety of public at-grade highway railroad crossings. To be eligible the project should be on the prioritized list of crossings. A 10 percent local match is required. Applications are due July 1st. https://iowadot.gov/iowarail/safety/federal-aid-crossing-safety-program

Sign Replacement Program for Cities and Counties (SRPFCC): Funds from the program may be used by cities and counties to replace damaged, worn out, obsolete or substandard signs and signposts. Eligible signs are existing regulatory, warning, and

school area signs for replacement. Cities are eligible for up to $5,000 in signs and posts per year, counties $10,000 per year. Applications are accepted until funding is exhausted.
https://iowadot.gov/traffic/traffic-and-safety-programs/sign-replacement-program

Regional/Local Level Planning - Safety

The Regional Planning Affiliation facilitates safety planning at the regional and local levels in the region by assisting both the Iowa Department of Transportation and the cities and counties. The RPA assists the Iowa DOT by discussing transportation safety issues in regional plans, hosting discussions of regional stakeholders on transportation topics and projects including safety and facilitating the dissemination of safety information to local jurisdictions. The RPA assists the cities and counties with the development of local transportation plans that include safety elements, creating and reviewing local crash maps and developing applications for safety grant programs.

Local jurisdictions are the usually the first entity to identify a safety problem on their system. Cities and counties identify safety issues through obsolescence of the facility, crash analysis, and user complaints. Some jurisdictions develop local safety plans that specifically focus on safety issues, others address projects through their regular project development cycles. In order to be prepared for safety problem on the road system that may disrupt the movement of traffic, each county in the region has developed a Traffic Incident Management map through consultation with the Iowa Department of Transportation District 5 office. These maps identify alternate routes that may be used by emergency responders and tow companies in an emergency or may be used as a detour for traffic.

Area Crashes

In 2018 there were a total of 1,254 crashes in the region. Just over 51% of these crashes were multi-vehicle crashes and a majority (872) were property damage only. Of the total there were ten fatal and forty-one major injury crashes. Eighteen of the crashes were between a vehicle and a pedestrian. Maps 8.1-8.5 show the location and the severity of crashes within each county and the three urban areas. These maps show the crashes clustered in the cities or strung out along the major roads. This is expected and due to the cities and major roads having higher traffic and more potential for conflicts.

2018 Crashes

By Type:
Single Vehicle – 48.3%
Multiple Vehicle – 51.6%
Vehicle / Pedestrian – 18

By Severity:
Fatal – 10
Major Injury – 41
Minor Injury – 115
Possible Injury –216
Property Damage Only - 872

Source: Iowa Crash Analysis Tool.
https://icat.iowadot.gov/
Accessed: January 20th, 2019.

Maps 8.6-8.10 shows how many vehicles were involved in the crash or if the crash involved a vehicle and a pedestrian.   Crashes involving multiple vehicles are clustered in cities. This is a result of more conflicts between vehicles in intersections, driveways and lane changes. The locations of the vehicle pedestrian crashes are in most cases in an urban area, this is because there are more pedestrians in the larger cities and there is more vehicle traffic.

An examination of the fatal and major injury crashes using the Iowa DOT's Strategic Highway Safety Plan analysis code shows that for 2018 the three areas with the highest number of fatal and major injury crashes and the number of injuries were local roads, lane departures and speed-related. These three areas are the same as the top three identified statewide. The number of fatal and major injury crashes, and the number of fatalities and major injuries caused by a crash, is shown for reach of the emphasis area in figure 8.3.

Figure 8.3: 2018 Fatal and Major Injury Crashes and Injuries in the Region by Emphasis Area								
		Crash			Injury			Severe Injury Rank	%age of Severe Injuries
Category	Topic	Fatal	Major	Severe*	Fatalities	Major	Severe*	Severe Injury Rank	%age of Severe Injuries
	Totals	10	41	51	11	50	61		
Drivers									
	Younger Drivers	1	12	13	1	13	14	6	22.95%
	Older Drivers	5	6	11	5	9	14	6	22.95%
	Speed-related	8	19	27	9	26	35	3	57.38%
	Impaired Driving	0	5	5	0	5	5	13	8.20%
	Inattentive/Distracted Driving	2	8	10	2	10	12	8	19.67%
	Unprotected Persons	6	10	16	7	13	20	5	32.79%
Highway									
	Train	0	0	0	0	0	0	17	0.00%
	Lane Departures	7	21	28	8	28	36	2	59.02%
	Roadside Collisions	5	15	20	5	19	24	4	39.34%
	Intersections	2	8	10	2	9	11	9	18.03%
	Work Zones	0	1	1	0	1	1	16	1.64%
	Local Roads	7	30	37	6	35	41	1	67.21%
	Winter Road Conditions	1	3	4	1	6	7	12	11.48%
Special Users									
	Pedestrians	0	3	3	0	3	3	14	4.92%
	Pedalcyclists	0	3	3	0	3	3	14	4.92%
Vehicles									
	Motorcycles	1	8	9	1	9	10	10	16.39%
	Heavy Trucks	2	4	6	2	7	9	11	14.75%
	Other Special Vehicles	0	0	0	0	0	0	17	0.00%

Based off 2019 Iowa Strategic Highway Safety Plan Code

*Severe = Fatal + Major for both crashes and injuries, respectively.

History of Crashes in the Region

Over the past five years the number of crashes within the region has increased slightly from 2014 and has since remained around 1,250 except for a spike in 2017. Figure 8.4 shows the five-year crash history for the region by each county and the three urban areas. Looking at this figure shows that not all of the jurisdictions had similar experiences. For the counties: Jefferson held steady throughout the five years, Keokuk did as well except for a spike in 2017, Mahaska saw an increase of 30 crashes during the five-year period, Van Buren saw a smaller increase and Wapello experienced a decrease in the number of crashes. For the cities: Fairfield held steady, Oskaloosa

experienced a small increase in the number of crashes, and Ottumwa saw a decrease of 46 crashes.

Figure 8.4: Five Year Regional Crash History					
	2018	2017	2016	2015	2014
RPA 15	**1,254**	**1,295**	**1,265**	**1,266**	**1,216**
Jefferson	247	242	236	254	246
Keokuk	103	125	108	91	94
Mahaska	287	312	314	299	257
Van Buren	73	82	81	81	58
Wapello	544	534	526	541	561
Fairfield	90	100	98	107	103
Oskaloosa	185	194	172	187	178
Ottumwa	347	333	321	346	393
Source: Iowa Crash Analysis Tool					
https://icat.iowadot.gov/					
Accessed: January 20th, 2019					

Figure 8.5 shows a breakdown of the crashes over the last five ears by severity, it also shows the number of vehicle and pedestrian crashes. As shown in this figure, while the number of total crashes has increased the number of fatal and major injury crashes has remained steady between 2014 and 2018. Crashes involving vehicles and pedestrians has also remained steady. The increase in the number of crashes is due to an increase in less severe crash types, minor injury crashes increased by 20 and property damage only crashes increased by 14.

Figure 8.5: Five Year Crash Severity					
	2018	2017	2016	2015	2014
RPA 15	**1,254**	**1,295**	**1,265**	**1,266**	**1,216**
Fatal	10	9	13	9	9
Major Injury	41	41	37	42	46
Minor Injury	115	139	134	138	95
Possible Injury	216	207	222	196	208
Property Damage Only	872	899	859	881	858
Vehicle/Pedestrian Crash	18	13	24	18	20
Source: Iowa Crash Analysis Tool					
https://icat.iowadot.gov/					
Accessed: January 20th, 2019					

Potential Safety Improvements

Figure 8.6 identifies areas of safety concern and potential projects over the next five years that have been identified to address the concerns. It includes information on the project's jurisdiction, location, and improvement. These projects were identified by the RPA Technical Advisory Committee. The Oskaloosa and Ottumwa projects are recommendations of TEAP studies both cities had completed in early 2018. A TEAP study is currently underway in Wapello County for Cardinal Elementary School located on Iowa Highway 16. The G5T project in Mahaska County between the Skunk River and US 63 is a recommendation of the county's Local Road Safety Plan. All five of the county's have Local Road Safety Plans and Fairfield and Oskaloosa have plans in development.

A Local Road Safety Plan provides the basis for safety improvements along local roads. The LRSP uses a risk factor analysis to assist local jurisdictions in understanding the types of crashes occurring on their roadways and is a locally focused plan that allows the jurisdiction to make informed and prioritized safety decisions. The benefits of an LRSP are: an analysis of risk and not just crash history, coordination between various local agencies, results of the analysis can be used to leverage funding, includes all five E's of safety (Engineering, Emergency, Education, Enforcement and Everyone). Figure 8.7 lists the number of engineering projects for each county by category (intersection, curve or road segment) and the total cost for all the projects in that category that were identified in the county's LRSP.

Figure 8.6: Areas of Safety Concern and Projects

City/County	Location	Project
Fairfield	9th and Burlington, 4th and Merrill, Main and Burlington, Burlington between Main and Court, Main and Washington, Main and Madison, Main and Fillmore	Pedestrian Crossings
Fairfield	Libertyville Rd: between Libertyville and 227th in City limits	Widening
Fairfield	Burlington/Main and Burlington/Court	Mast Arms
Fairfield	Mint Blvd	Trail relocation
Oskaloosa	Any signalized intersection	Update signal timings, upgrade traffic signal controllers, replace pedestrian signal indicators with countdown indicators
Oskaloosa	A Avenue and Market Street	Remove protected left turn signal phasing for A Avenue when signal is upgraded
Oskaloosa	IA 23 and 3rd Avenue	Remove traffic signal, install stop control on 3rd Ave
Oskaloosa	A Avenue at L St, Market St, 1st St, 3rd St and 11th St	Upgrade traffic signals to fully actuate including pedestrian
Oskaloosa	A Avenue between Hwy 432 and ECL	Convert from 4 lane to 3 lane with continuous left turn lane
Oskaloosa	Market Street between 16th Ave and 2nd Ave	Convert from 4 lane to 3 lane with continuous left turn lane
Oskaloosa	C Avenue and Market Street	Install fully actuated traffic signal
Oskaloosa	15th Avenue and Market Street	Install fully actuated traffic signal
Ottumwa	IA 149 and Fox Sauk Road	Possible improvements include: sign relocation, shoulder replacement/widening, create dedicated turn lane, provide offset turns, provide protected turns at Rochester Rd
Keokuk Co	Any Road Project	Adding rumble strips, paved shoulders, 2ft safety edge
Mahaska Co	G5T: Skunk River to US 63	Grind rumble strip centerlines and edgelines
Mahaska Co	G5T and T33	Active Intersection warning system for T intersection

Sources: RPA 15 Technical Advisory Committee

Oskaloosa TEAP Study dated July 27th, 2018

Ottumwa TEAP Study dated February 24th, 2018

Figure 8.7: Local Road Safety Plan Summary

County	# of intersections	Total Cost	# of Curves	Total Cost	# of Segments	Total Cost	Total #	Total Cost
Jefferson	10	$229,000	11	$413,000	12	$3,422,000	33	$4,064,000
Keokuk	21	$387,000	12	$285,000	12	$1,570,000	45	$2,242,000
Mahaska	14	$440,000	18	$519,000	16	$6,095,000	48	$7,055,000
Van Buren	10	$631,000	10	$172,000	11	$852,000	31	$1,655,000
Wapello	21	$344,000	12	$218,000	12	$1,538,000	45	$2,100,000

Source: Jefferson, Keokuk, Mahaska, Van Buren and Wapello County Local Road Safety Plans
Kimley-Horn and Associates 2016 and 2017

Rail Safety

Rail crashes of all kinds, including derailments and track or equipment failures have decreased significantly over the past 40 years, at the same time rail traffic has increased. More importantly rail crossing crashes involving trains and automobiles has decreased. This indicates that rail safety and rail crossing safety has improved substantially over this time period. Figure 8.8 shows the number of rail crashes except for rail/auto crashes in each county for the last ten years. This figure shows a reduction in crashes in the region from 2009 to 2018 indicating an improvement in safety. Figure 8.9 shows the number of rail crossing crashes in each county during the same time period. Similar to rail crashes, the number of rail crossing crashes also decreased over the ten years. There were only two rail crossing crashes in the last five years, one in 2016 and one in 2017.

Figure 8.8: Rail Crashes by County from 2009 to 2018 (Excluding Rail-Auto Crashes)

County	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Jefferson	0	0	0	0	1	0	0	0	0	0
Keokuk	0	0	0	0	0	0	0	0	0	0
Mahaska	1	1	0	0	0	0	0	0	0	0
Van Buren	0	0	0	0	0	0	0	0	0	0
Wapello	1	3	4	0	0	3	1	0	1	0

Source: Federal Railroad Administration 2018
https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/query/AccidentByStateRailroad.aspx
Accessed: January 3rd, 2019

Figure 8.9: Rail Crossing Crashes by County from 2009 to 2018										
County	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Jefferson	0	0	1	0	1	0	0	0	0	0
Keokuk	0	0	0	0	0	0	0	0	0	0
Mahaska	0	0	1	0	1	0	0	0	0	0
Van Buren	0	0	0	0	0	0	0	0	0	0
Wapello	1	0	1	1	1	0	0	1	1	0

Source: Federal Railroad Administration 2018

https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/query/HwyRailAccidentSummaryByRR.aspx

Accessed: January 3rd, 2019

Security Planning

The Iowa Department of Homeland Security is the lead agency for security planning at the state level. This planning is focused on protecting people and infrastructure from natural and manmade disasters. Iowa HSEMD planning includes the Strategy for Iowa Homeland Security and Emergency Management and Iowa Comprehensive Mitigation Plan. The Strategy for Iowa Homeland Security and Emergency Management is a guide to how resources will be allocated, and agencies will work together to protect infrastructure or in response to a disaster. Iowa's Comprehensive Emergency Plan assesses the risk to infrastructure and discusses the state's capabilities for mitigation.

The Iowa Department of Transportation assists with security planning at the state level working with the Iowa Department of Homeland Security to develop strategies for protecting transportation infrastructure. The Iowa DOT also assists Iowa HSEMD with monitoring the transportation system for travel conditions, incidents and construction that disrupt the normal movement and providing that information to decisionmakers and the public.

Security planning at the local level is centered around the local emergency management commission, and the appointed emergency management coordinator. Each county has a commission and a coordinator, and their role is to develop an emergency plan for the governments within the county, coordinate training between local jurisdictions to test emergency plans and capabilities and coordinate a response in an actual emergency. Emergency management commissions in Iowa maintain several plans to assist with emergency situations: A Comprehensive Emergency Management Plan and a Hazard Mitigation Plan.

The Comprehensive Emergency Management Plan for each county describes how to deal with disasters and emergencies and the roles of different agencies and organizations. The plan can be divided into five sections: the base plan, emergency

support functions, support annexes, incident annexes and appendices. The basic plan describes the organizational structure, phases of emergency management and general responsibilities. Emergency Support Functions combine resources and capabilities needed for responding to types of emergences to form a response. Support Annexes discuss essential supporting information that is shared among incidents. The Incident Annexes describe response details unique to specific types of incidents. In the event of an emergency the Emergency Support Functions would be the section used in developing the response. Figure 8.10 shows when the Emergency Support Function relating to transportation or evacuation in each county was last updated.

The Hazard Mitigation Plan encourages the long-term reduction of vulnerability to natural and man-made hazards, with the goal of saving lives and protecting infrastructure. The plan identifies hazards, both natural and man-made, that
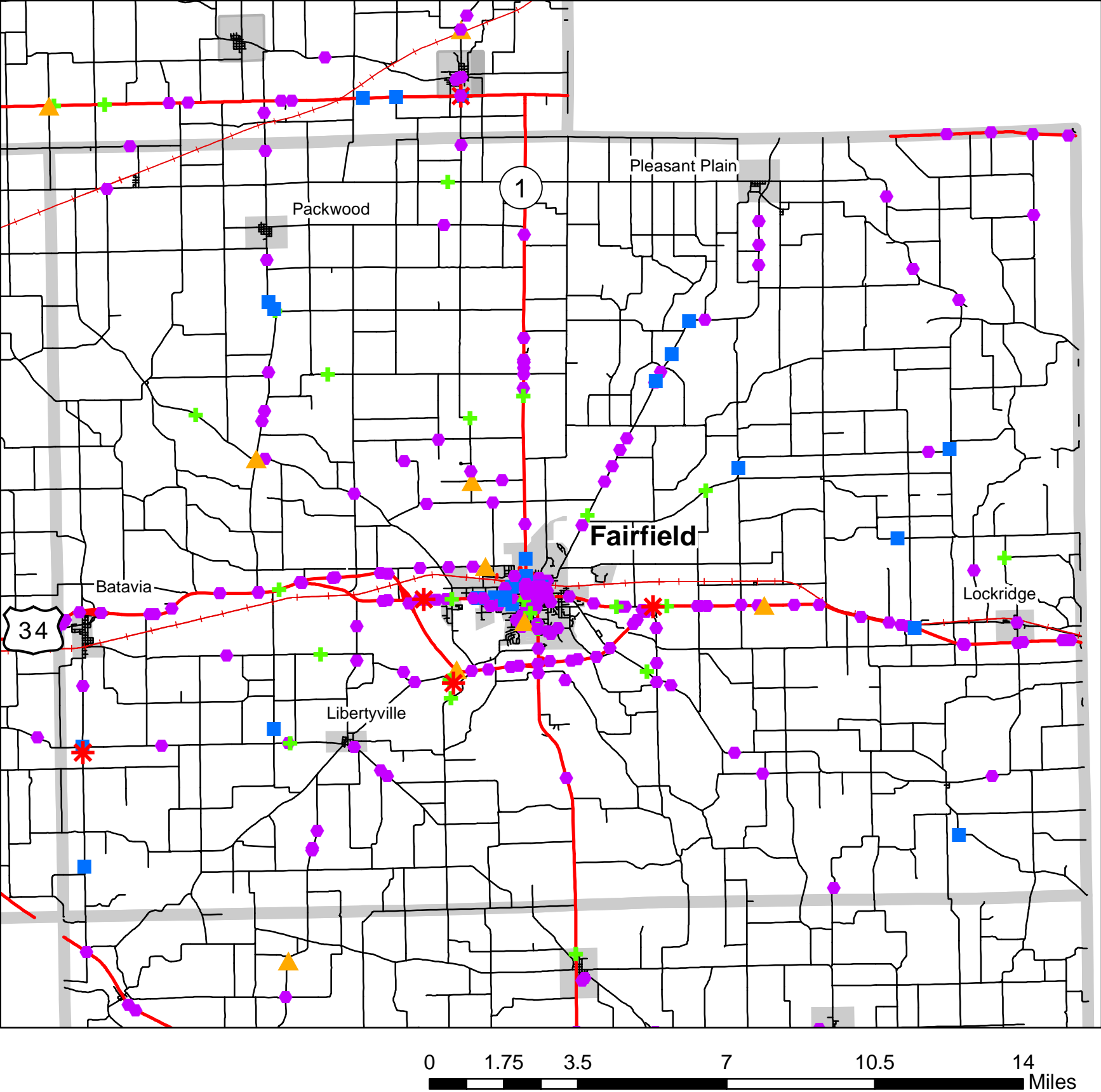
Figure 8.10: Local Emergency Plans		
County	ESF related to evacuation, last updated	Hazard Mitigation Plans, last updated
Jefferson	2015	2016
Keokuk	2016	2018
Mahaska	2015	2016
Van Buren	not known	2016
Wapello	2017	2015

may impact a community and mitigation actions that can be taken to reduce the impacts of the identified hazards. The process is intended to engage stakeholders to develop strategies and the plan to serve as a guide for decision makers to invest resources in how to protect the community. Figure 8.10 shows when the Hazard Mitigation Plan for each county was last updated.

The transportation infrastructure vulnerabilities identified in county Hazard Mitigation Plans has been bridges and culverts. These infrastructure items have a risk of failure during a natural disaster such as flooding and can have significant costs to replace after an event. The primary strategy identified in the Hazard Mitigation Plans to reduce the vulnerabilities of these structures is to maintain or replace bridges and culverts proactively based on their condition and importance.

The Area 15 Regional Planning Commission provides assistance to jurisdictions within the region with hazard mitigation planning and with grant writing. The RPC has assisted four counties update their hazard mitigation plans and assisted local jurisdictions with grant applications for: storm shelters, tornado sirens and firefighting equipment.

# Map 8.1: 2018 Jefferson County Crash Location and Severity

Packwood

Pleasant Plain

Fairfield

Batavia

34

Lockridge

Libertyville

Fairfield

1

34

N

0   1.75   3.5   7   10.5   14
Miles
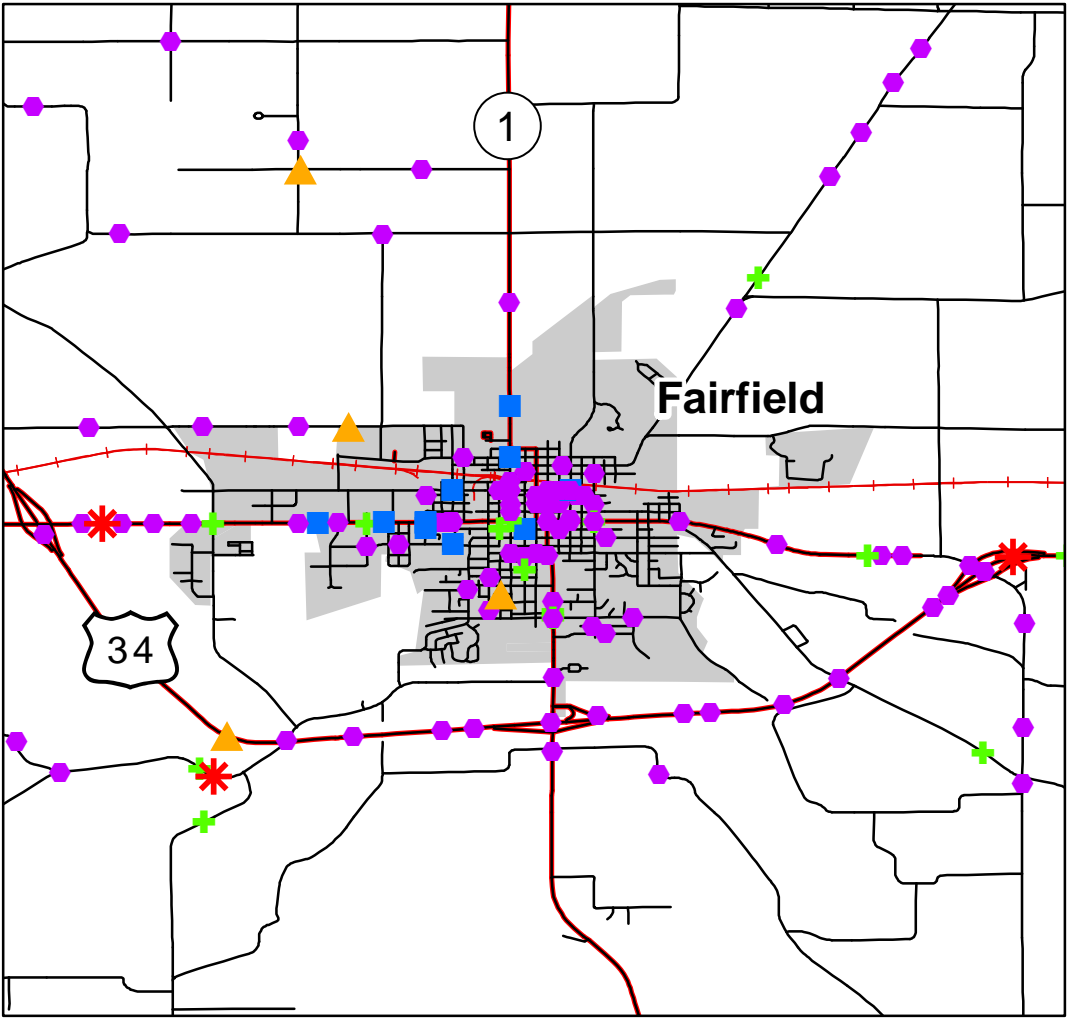
Legend

—+— Rail lines

—— Major Roads

—— Streets

City Limits

Crash Severity

✳ Fatal

▲ Major Injury

✚ Minor Injury

■ Possible/Unknown

● Property Damage Only

Map prepared by the Area 15
Regional Planning Commission
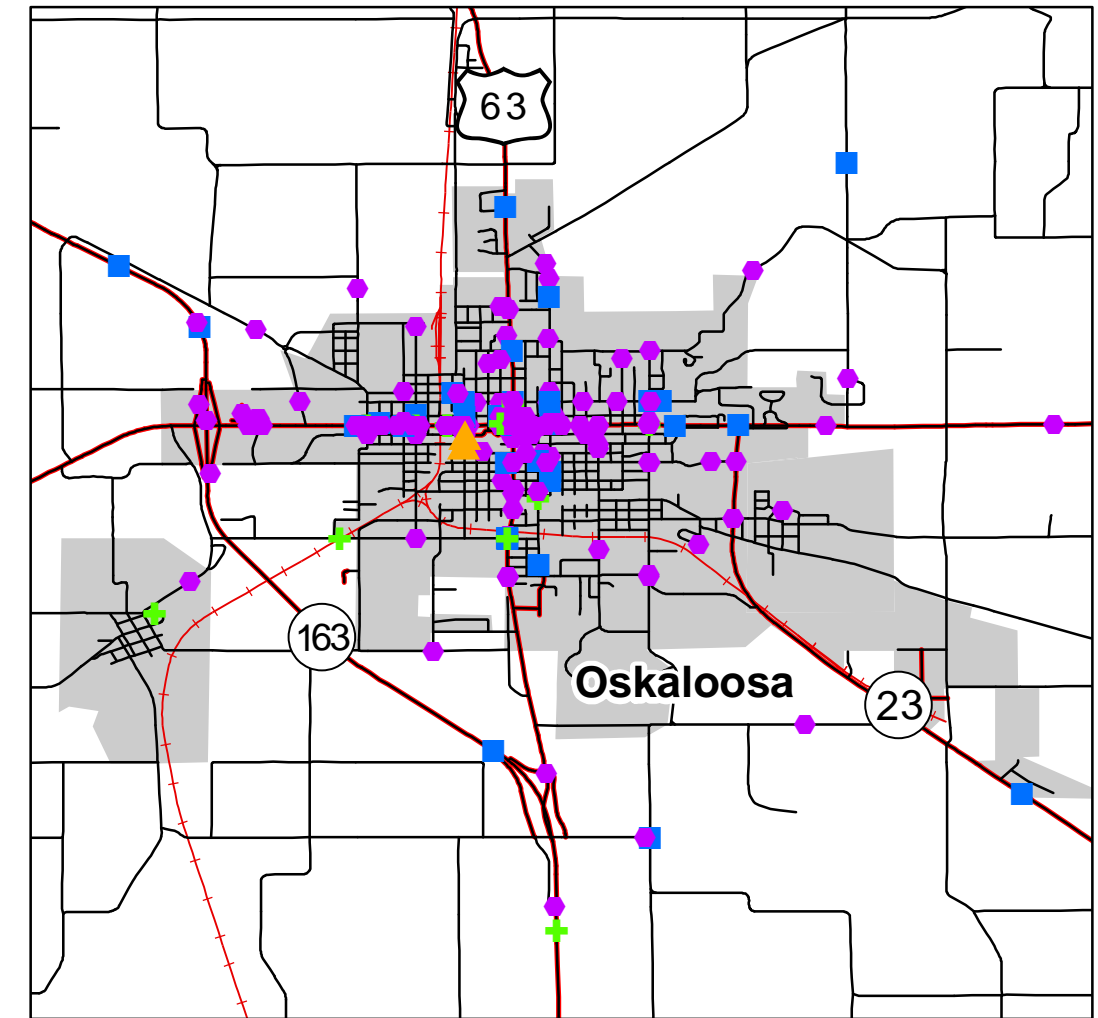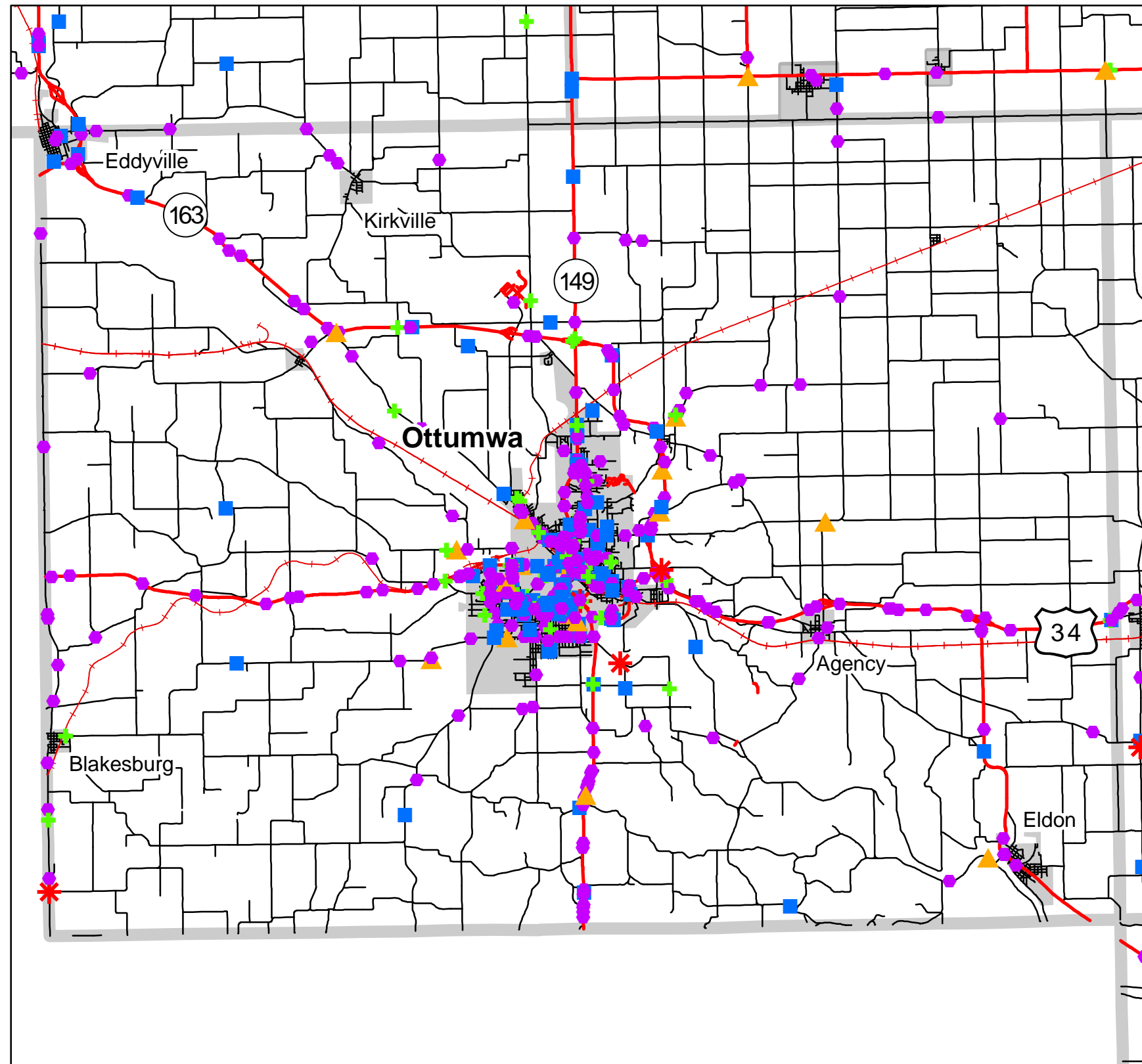Sources: ESRI and the Iowa
DOT.
Date prepared: 01-30-19

Map 8.2: 2018 Keokuk County Crash Location and Severity

N

Thornburg

Keswick

22

South English

Kinross

Webster

What Cheer

Keota

Sigourney

92

Delta

Hayesville

21

149

Ollie

Richland

149

Hedrick

Martinsburg

78

Legend

	Rail lines
	Major Roads
	Streets
	City Limits
	Counties

Crash Severity

* Fatal

▲ Major Injury

+ Minor Injury

■ Possible/Unknown

● Property Damage Only

0   1.75   3.5   7   10.5   14
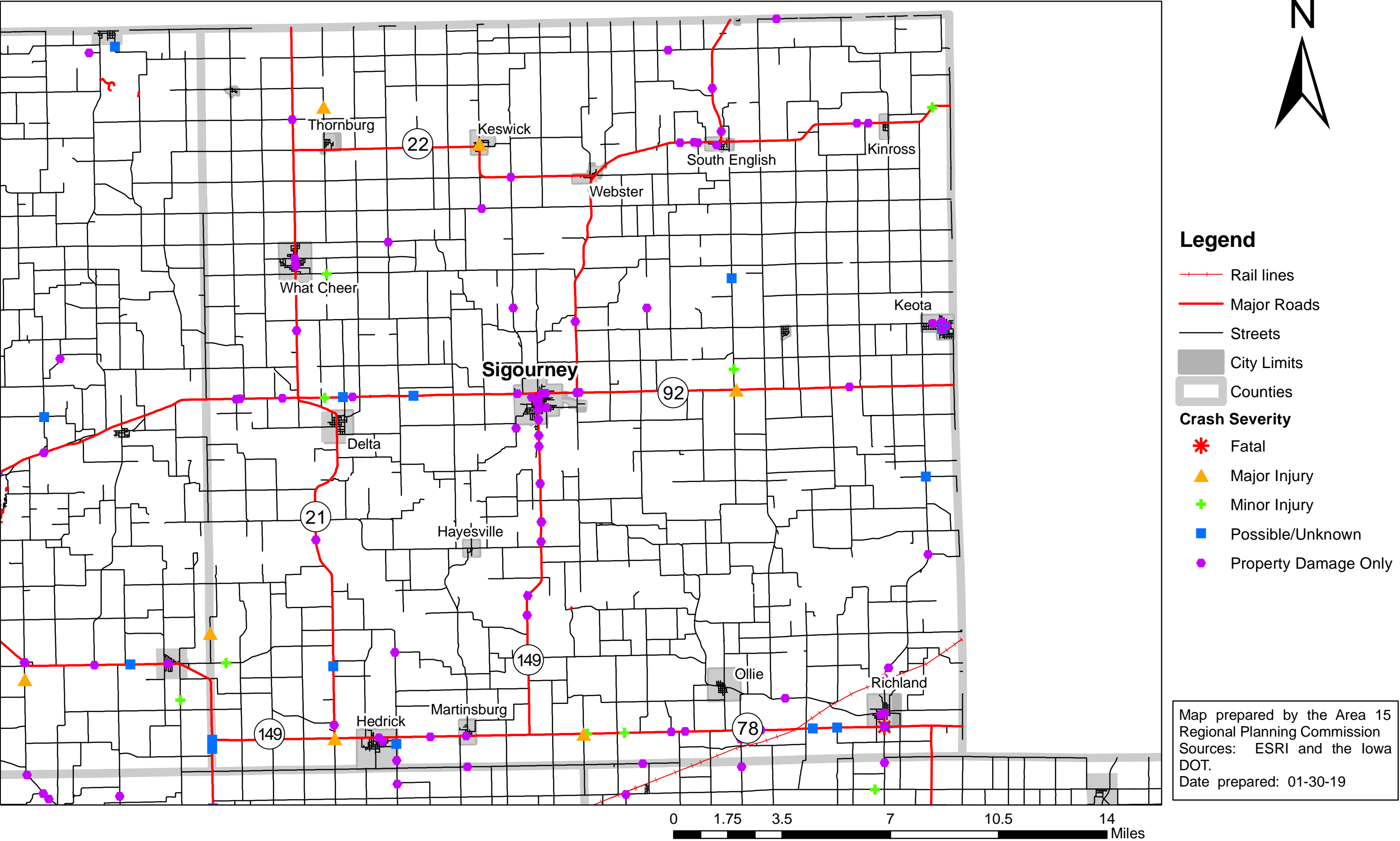
Miles

Map 8.3: 2018 Mahaska County Crash Location and Severity

N
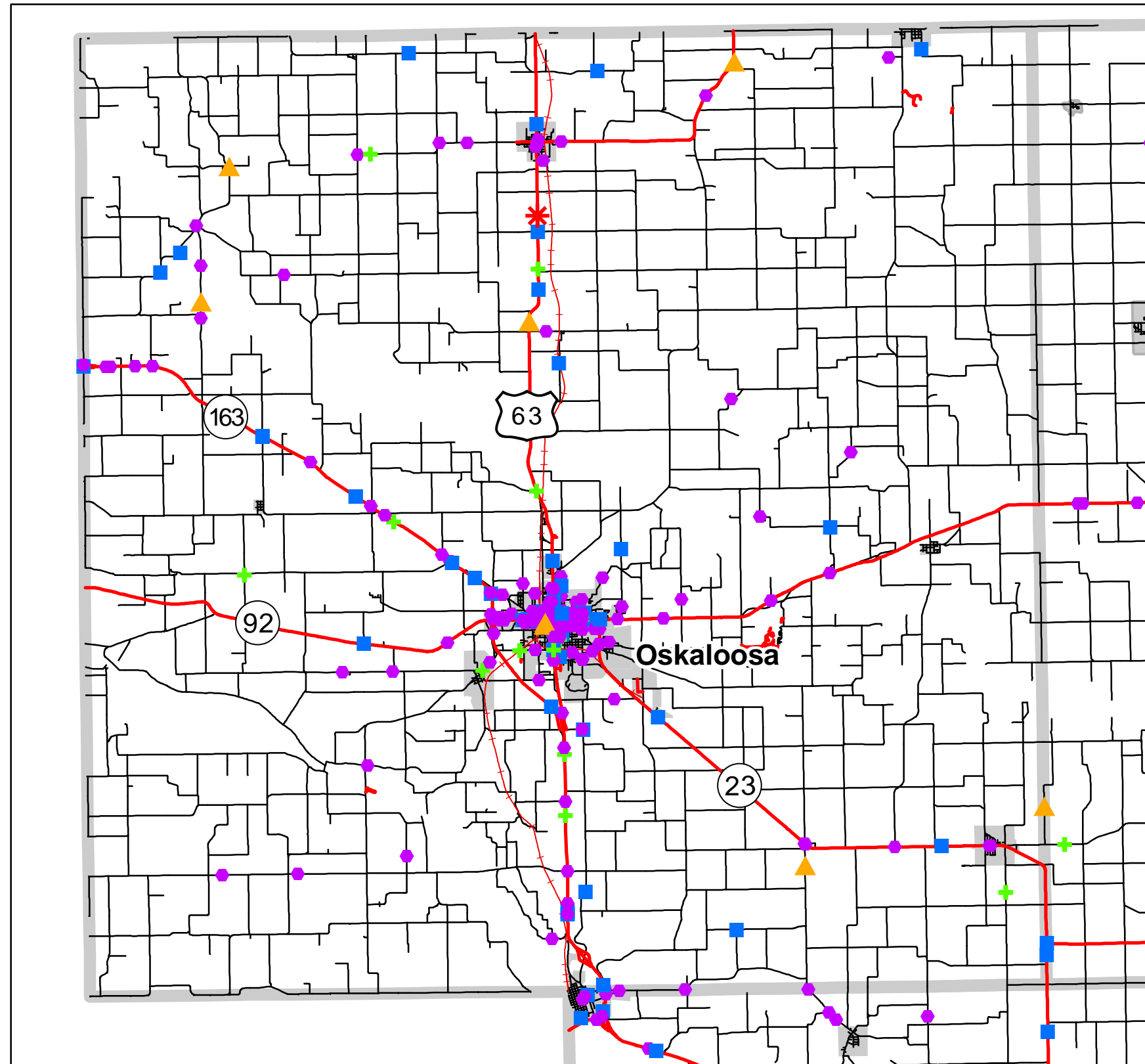
Legend

┼┼┼	Rail lines
▬▬	Major Roads
──	Streets
▓	City Limits
▢	Counties

Crash Severity

✳	Fatal
▲	Major Injury
✚	Minor Injury
◼	Possible/Unknown
●	Property Damage Only

0 2 4 8 12 16
Miles

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 01-30-19

Map 8.4: 2018 Van Buren County Crash Location and Severity

Birmingham

Stockport

16

1

Keosauqua

Bonaparte

Milton

2

Cantril

Farmington

N

Legend

Rail lines

Major Roads

Streets

City Limits

Counties

Crash Severity

✳ Fatal

▲ Major Injury

✚ Minor Injury

■ Possible/Unknown

⬣ Property Damage Only

Map prepared by the Area 15
Regional Planning Commission
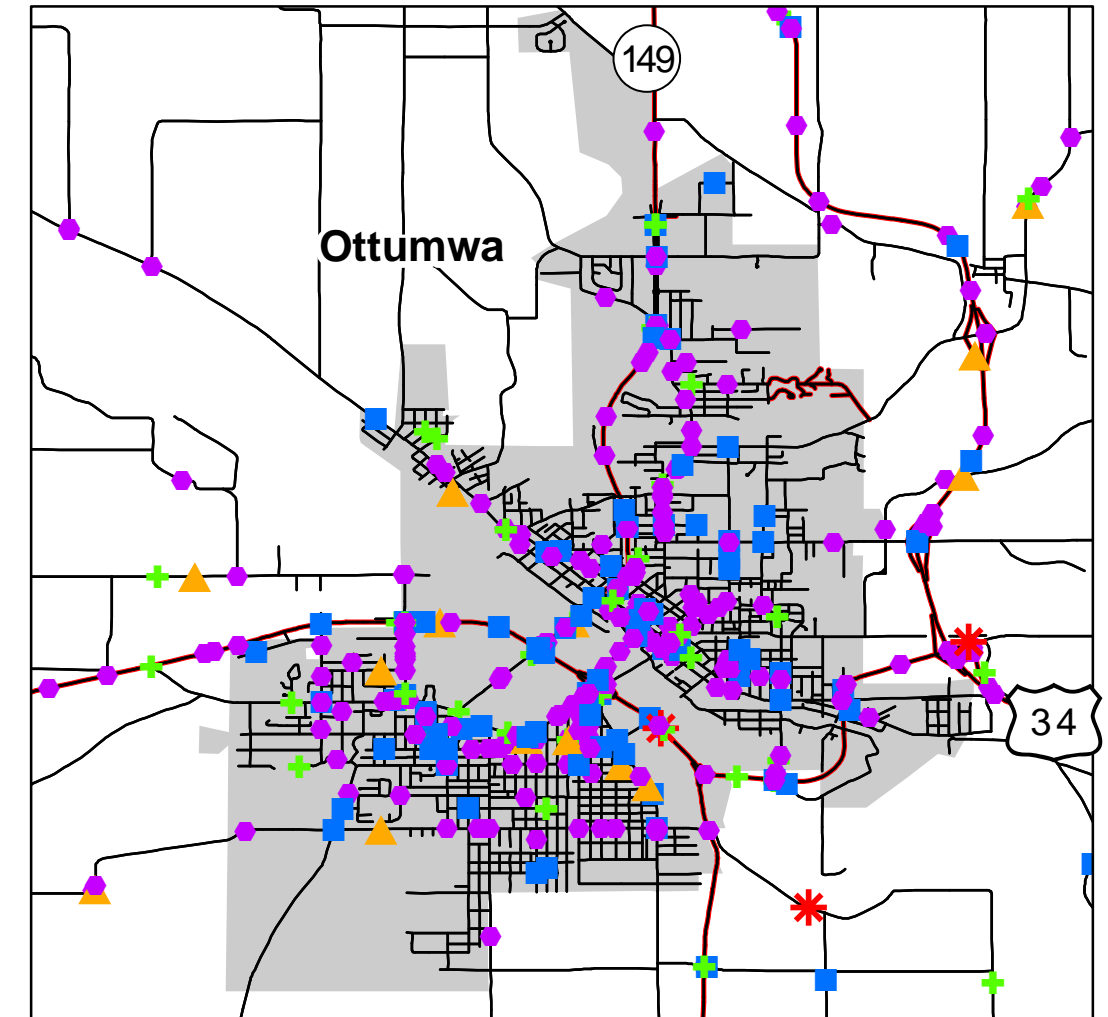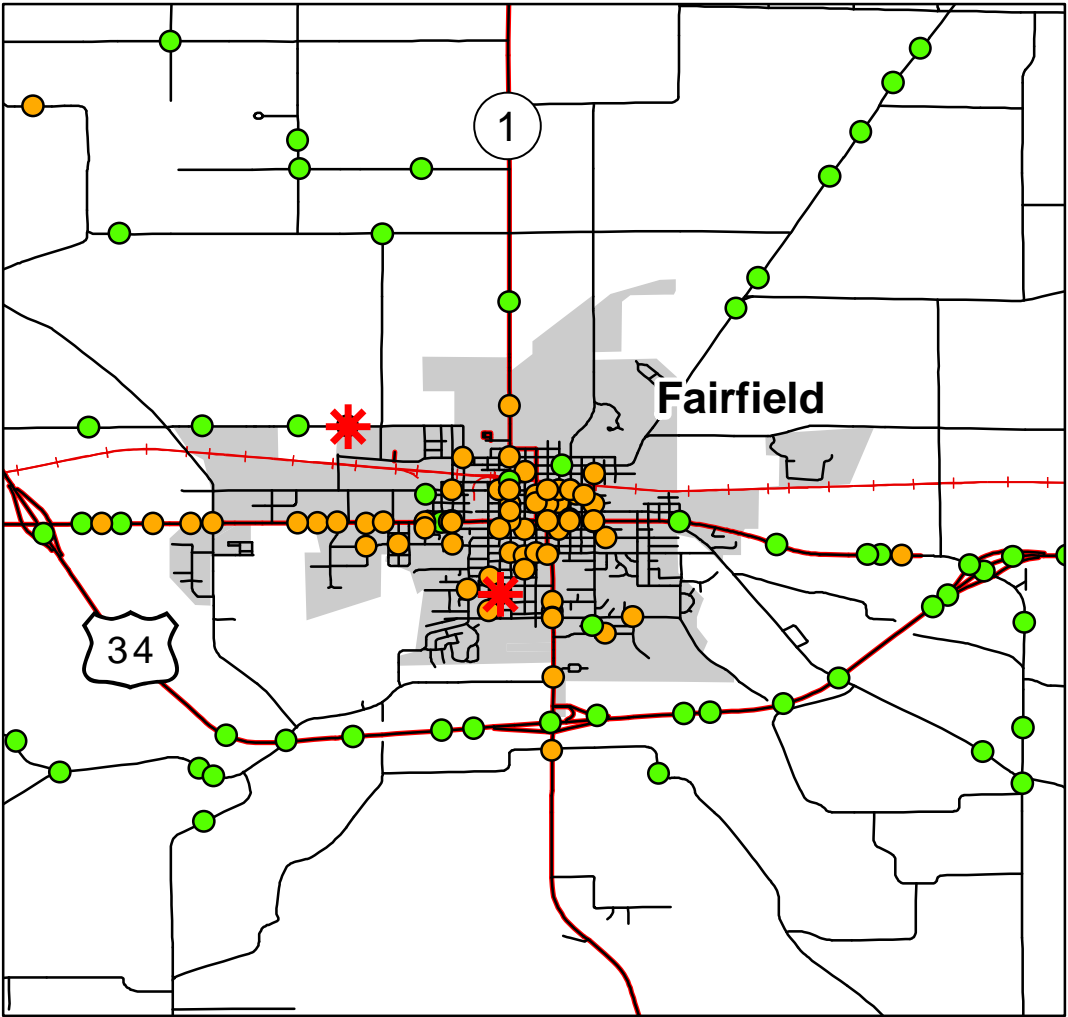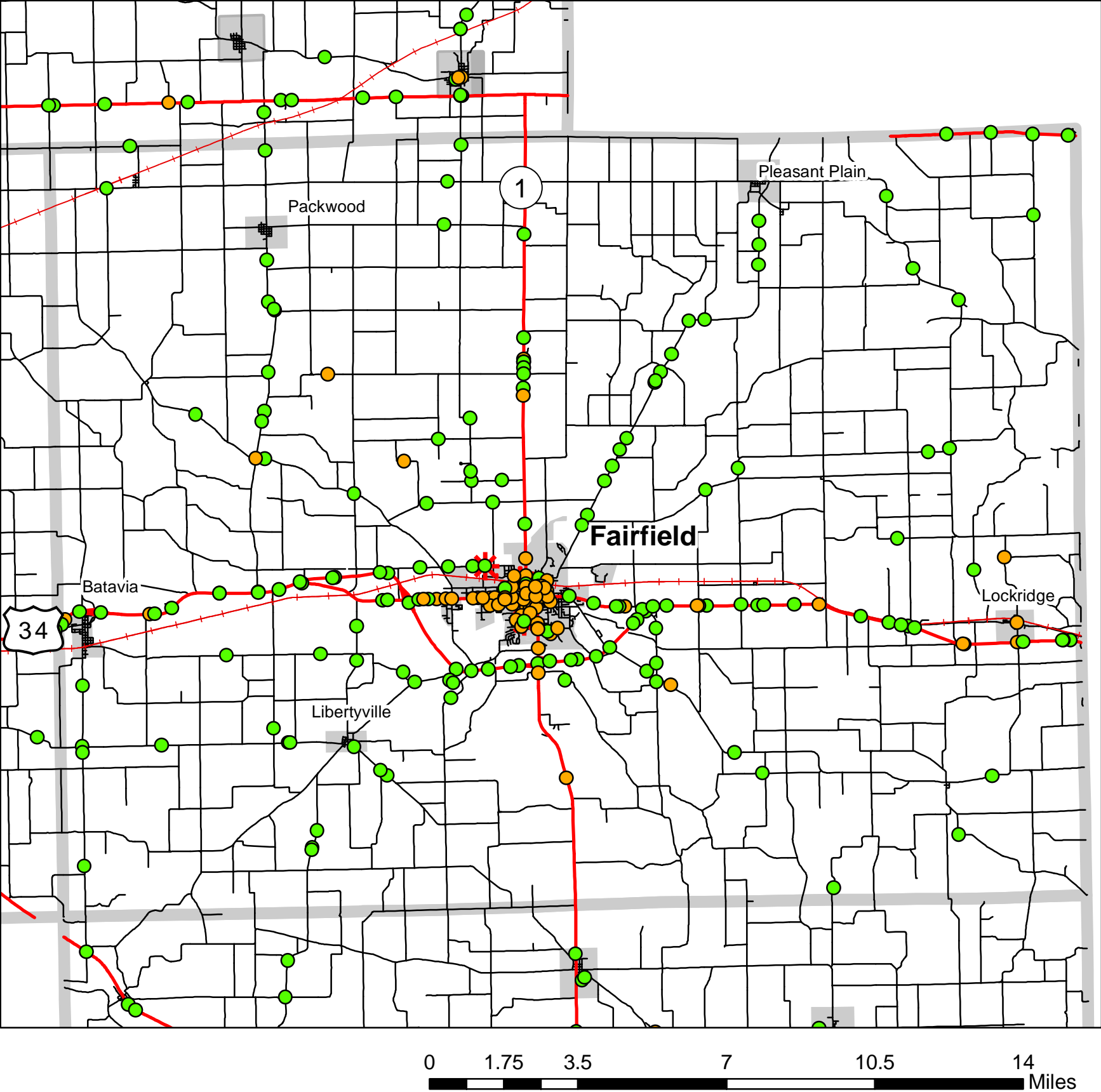Sources: ESRI and the Iowa
DOT.
Date prepared: 01-30-19

0   1.5   3   6   9   12
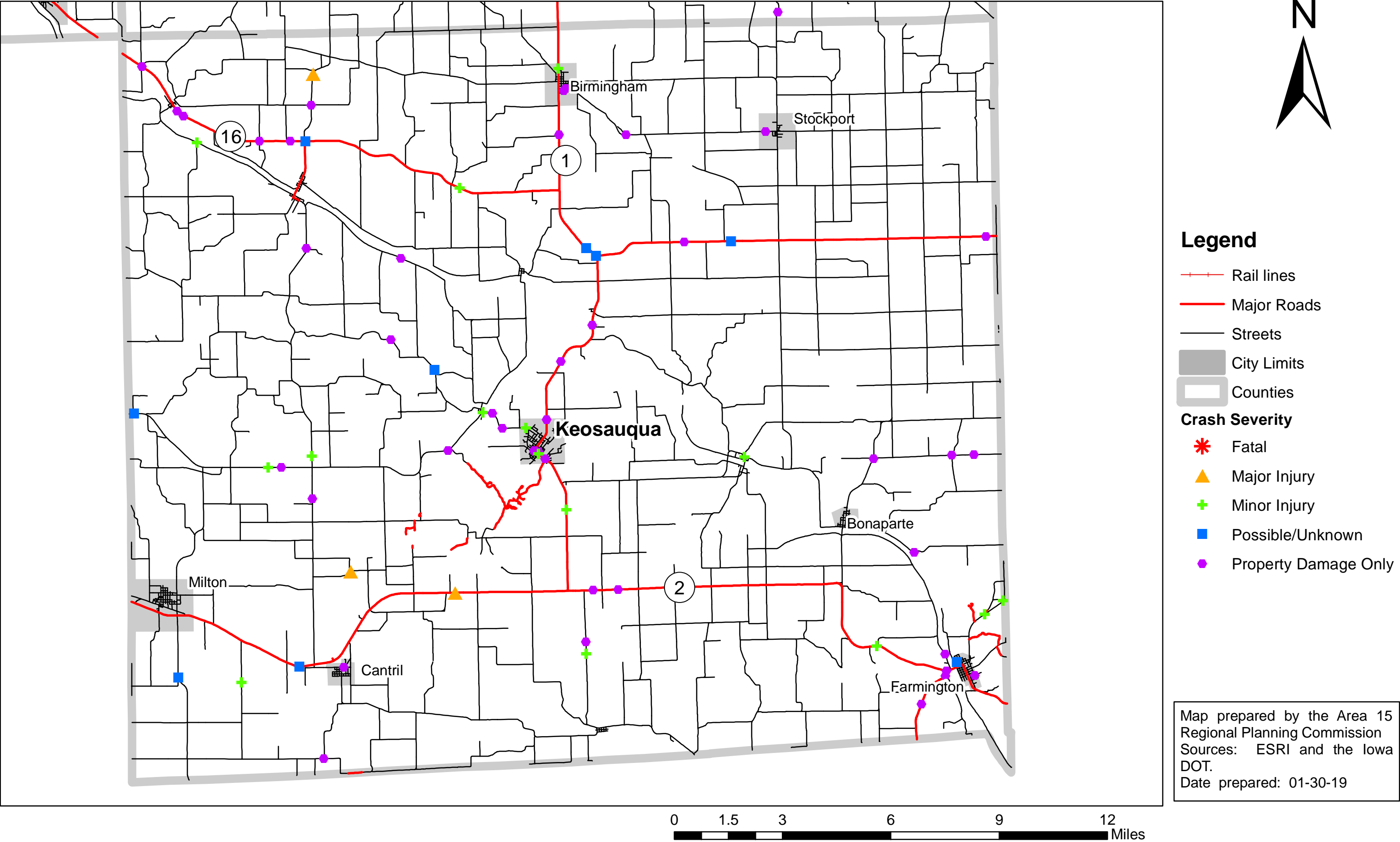
Miles

Map 8.5: 2018 Wapello County Crash Location and Severity

Legend

—+—	RPA15 rail lines
——	Major Roads
——	Streets
▮	City Limits
▯	Counties

Crash Severity

✳	Fatal
▲	Major Injury
✚	Minor Injury
▪	Possible/Unknown
●	Property Damage Only

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI and the Iowa DOT.
Date prepared: 01-30-19

0   1.75   3.5   7   10.5   14
Miles

Map 8.6: 2018 Jefferson County Crash Location and Type

Packwood

Pleasant Plain

1

Fairfield

Batavia

34

Lockridge

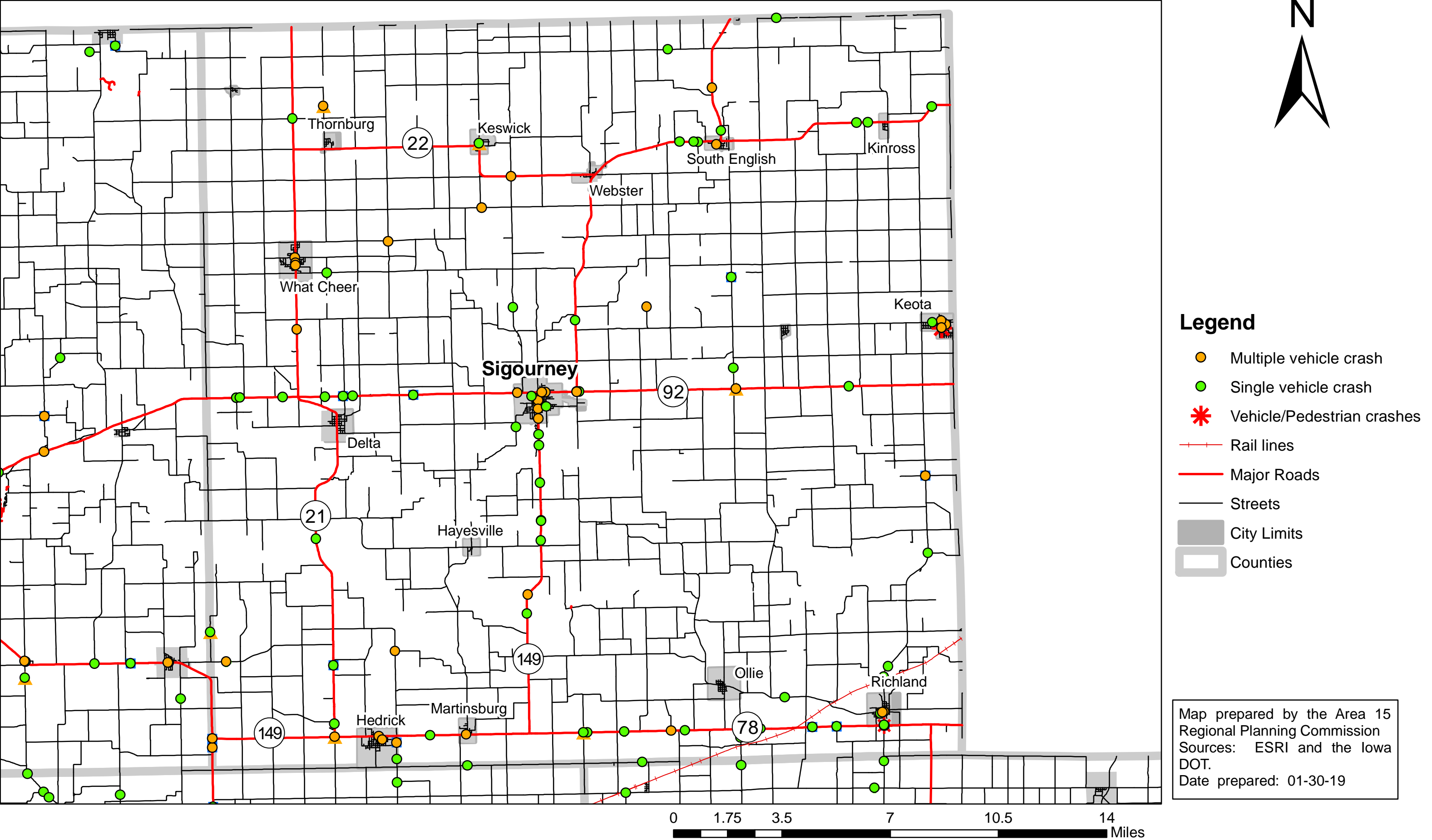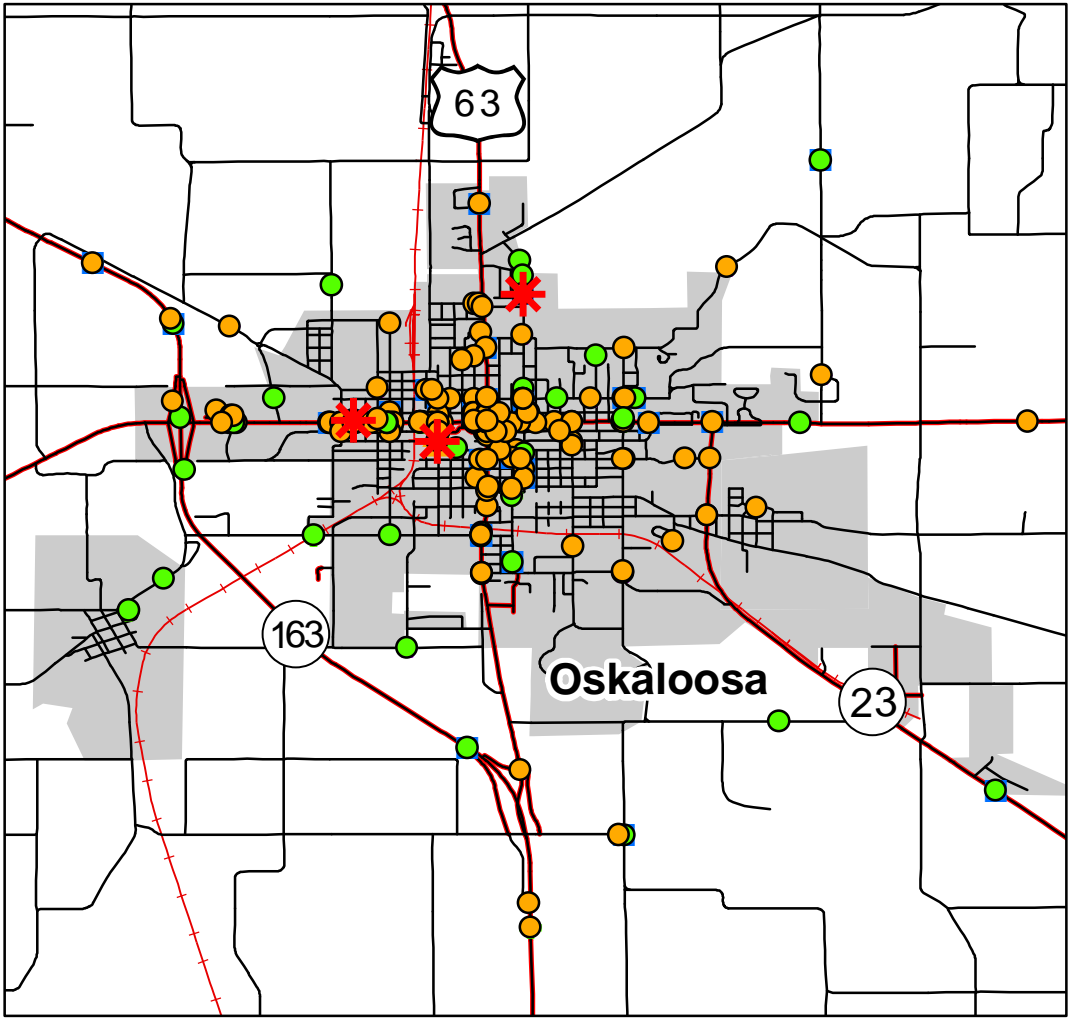Libertyville

1

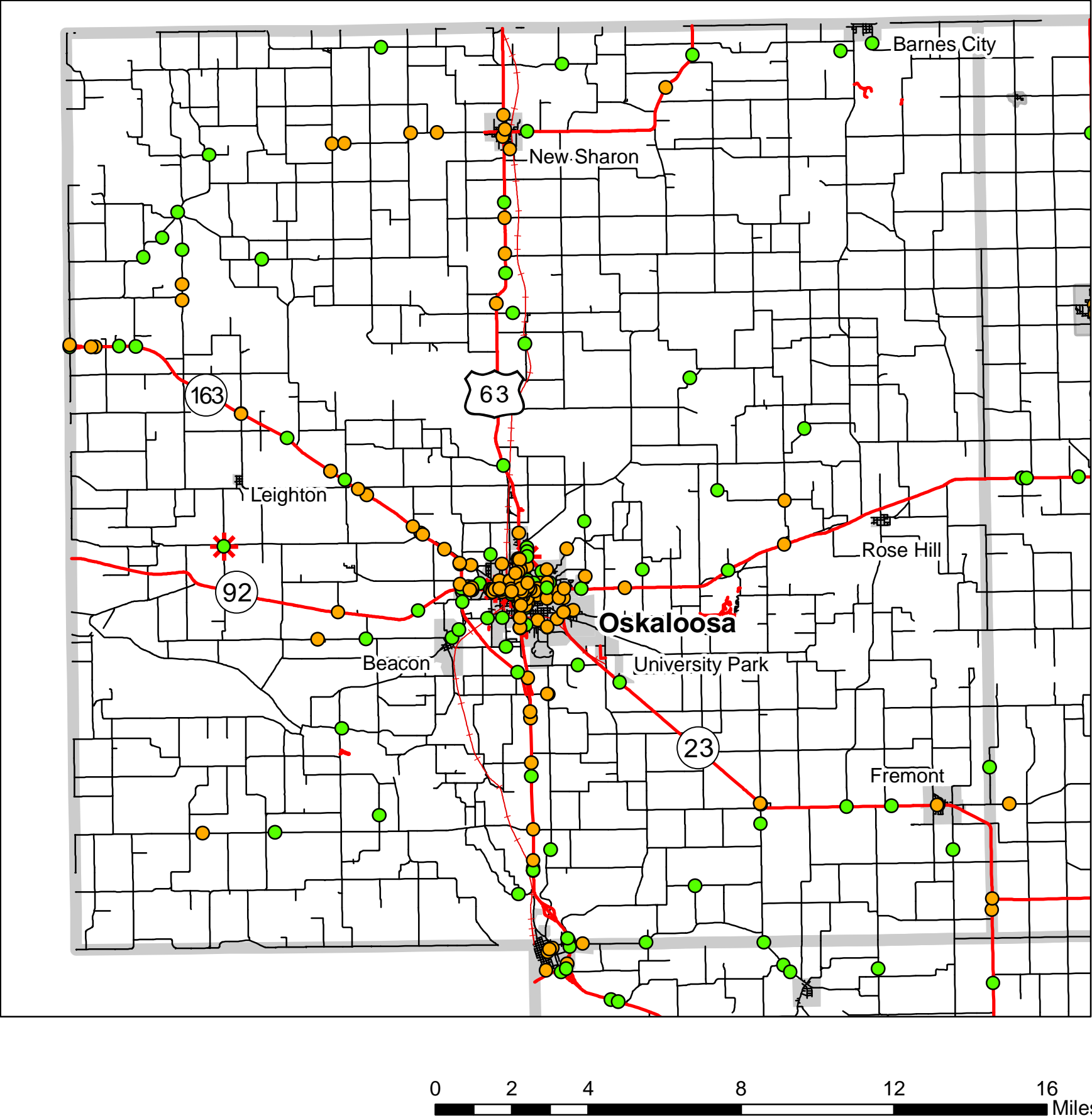Fairfield

34

N

Legend

- 🟠 Multiple vehicle crash
- 🟢 Single vehicle crash
- ✳ Vehicle/Pedestrian crashes
- ┼┼┼ Rail lines
- —— Major Roads
- —— Streets
- ▨ City Limits

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 01-30-19

0   1.75   3.5   7   10.5   14
Miles

Map 8.7: 2018 Keokuk County Crash Location and Type

N

Legend

- ● Multiple vehicle crash
- ● Single vehicle crash
- ✳ Vehicle/Pedestrian crashes
- ╫ Rail lines
- ━ Major Roads
- — Streets
- ▨ City Limits
- ▢ Counties

Thornburg

Keswick

South English

Kinross

Webster

What Cheer

Keota

Sigourney

Delta

Hayesville

Ollie

Richland

Hedrick

Martinsburg

21

22

92

149

149

78

0   1.75   3.5   7   10.5   14
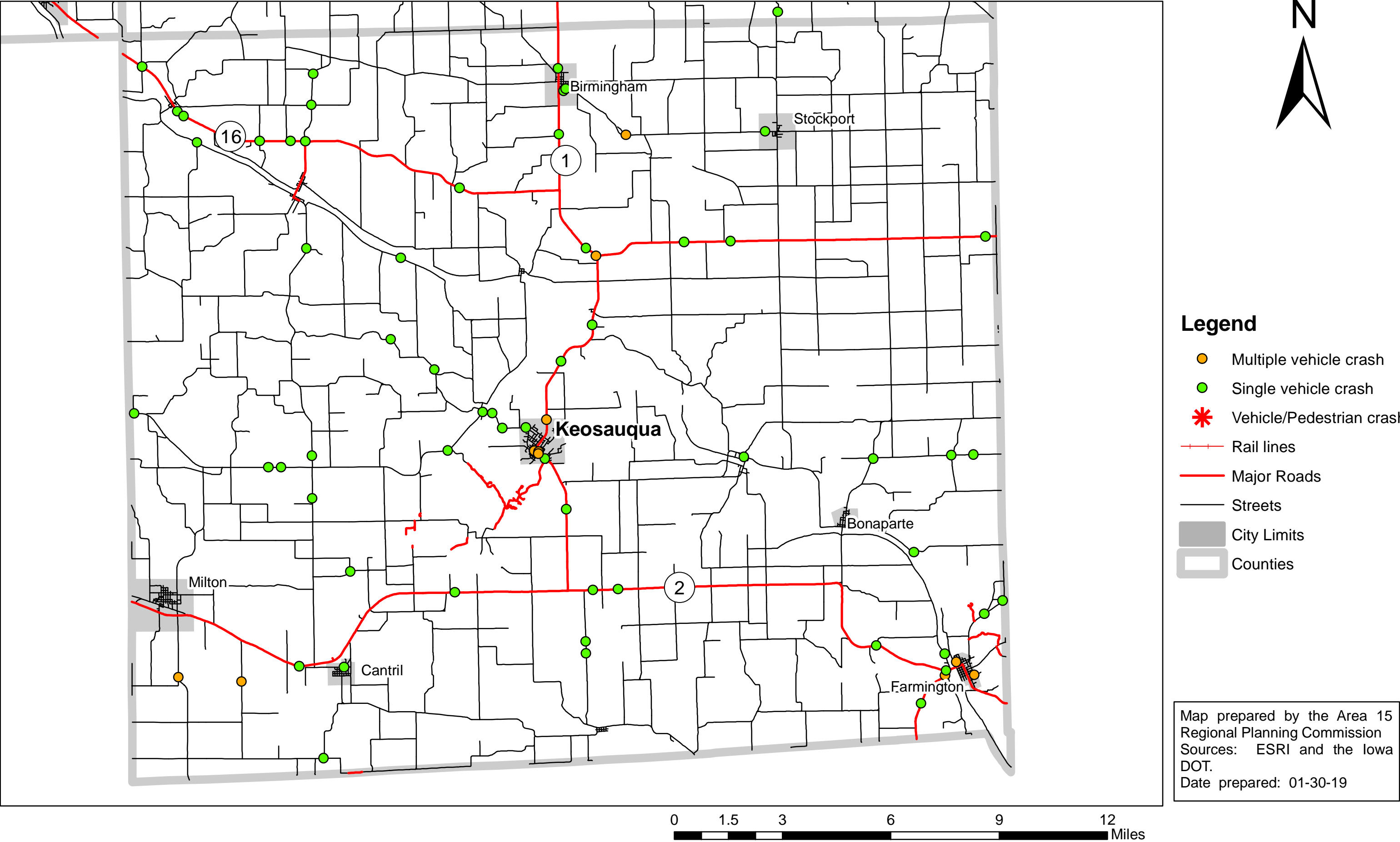Miles

Map 8.8: 2018 Mahaska County Crash Location and Type
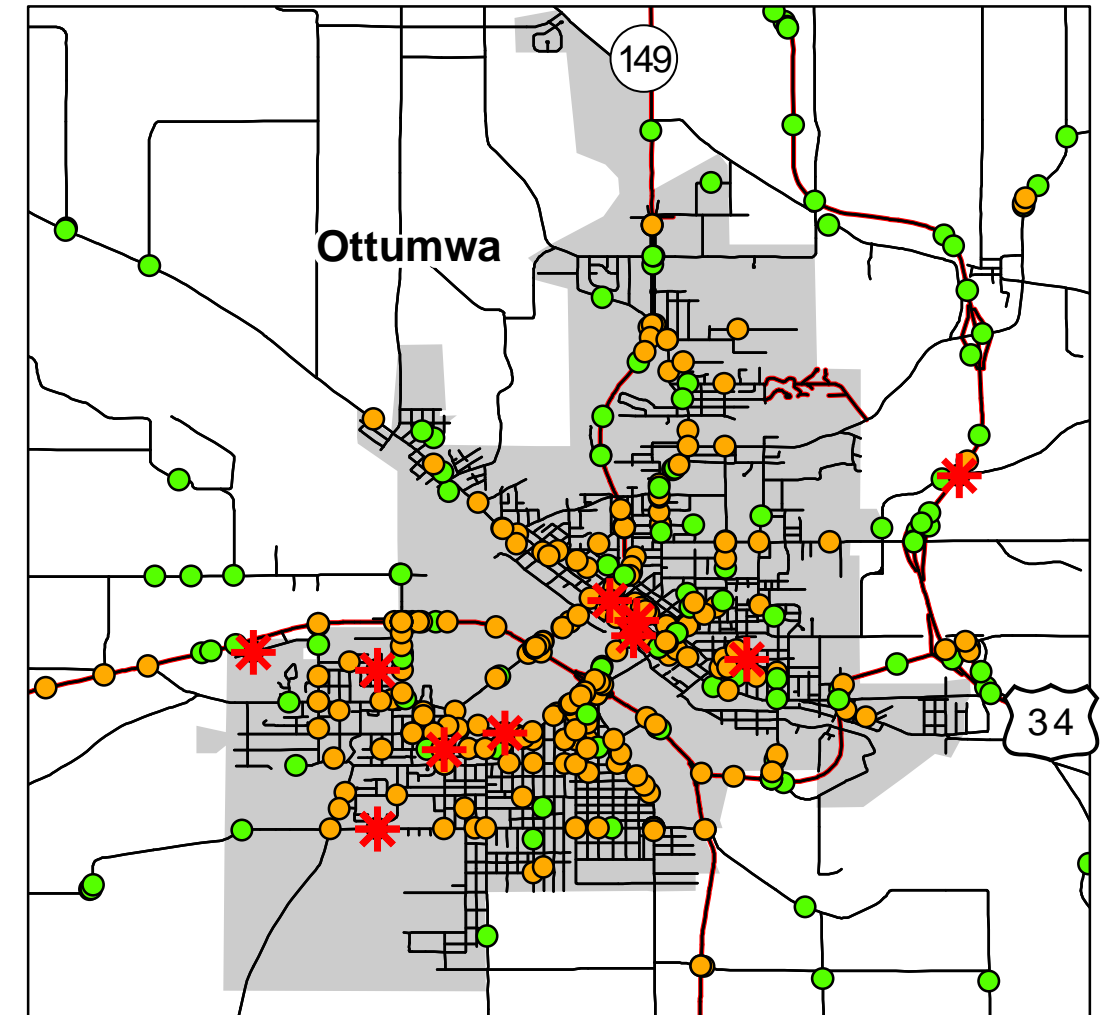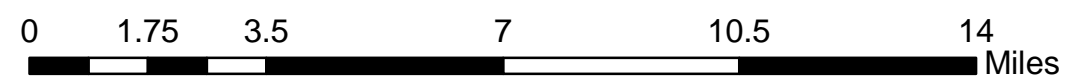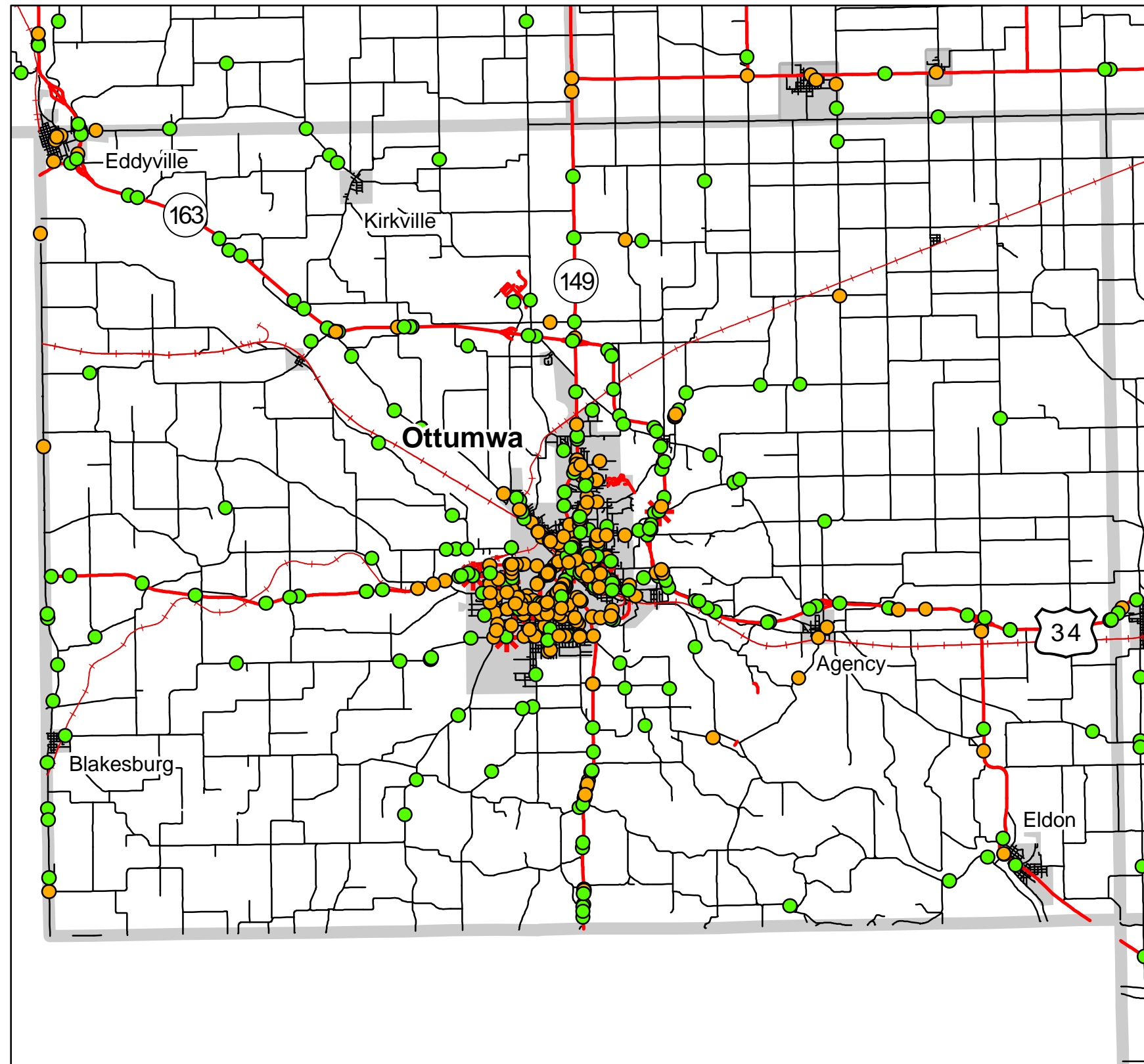

Legend

- 🟠 Multiple vehicle crash
- 🟢 Single vehicle crash
- ✳️ Vehicle/Pedestrian crashes
- ┼┼┼ Rail lines
- ▬▬ Major Roads
- ── Streets
- City Limits
- Counties

Map 8.9: 2018 Van Buren County Crash Location and Type

N

16

1

Birmingham

Stockport

Keosauqua

Bonaparte

Milton

Cantril

2

Farmington

Legend

- 🟠 Multiple vehicle crash
- 🟢 Single vehicle crash
- ✳️ Vehicle/Pedestrian crashes
- ┼┼┼ Rail lines
- ——— Major Roads
- ——— Streets
- ▨ City Limits
- ▢ Counties

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI and the Iowa
DOT.
Date prepared: 01-30-19

0   1.5   3   6   9   12
Miles

Map 8.10: 2018 Wapello County Crash Location and Type

Eddyville

163

Kirkville

149

Ottumwa

Agency

34

Blakesburg

Eldon

Ottumwa

149

34

Legend

- ● Multiple vehicle crash
- ● Single vehicle crash
- ✳ Vehicle/Pedestrian crashes
- ┼─┼ RPA15 rail lines
- ── Major Roads
- ── Streets
- ▨ City Limits
- ▢ Counties

N

0   1.75   3.5   7   10.5   14
Miles

Chapter 9: Environmental Mitigation

Transportation projects have the potential to impact the environment. When developing transportation projects, the project's effects on the environment musts be considered. Projects that use federal funds are required to follow the procedures of the National Environmental Policy Act, many projects that use state funds are required to follow similar procedures. This includes the consideration of alternatives and their effects on the environment.

Federal Requirements

Federally funded transportation projects must comply with the National Environmental Policy Act. This act requires an environmental review of projects as part of their development process. The NEPA review process includes the consideration of alternatives for the project and their effects on the environment. The process also includes public involvement cooperation between federal and state agencies.

There are three types of NEPA document types depending on the project and the significance of its impacts. These document types are: a Categorical Exclusion, Environmental Assessment and an Environmental Impact Statement. A Categorical Exclusion is for projects that have been determined to have no significant environmental impact. Environmental Assessments are performed if a projects impact is uncertain and determines if the project will have a significant impact on the environment. If it is determined that a project will not have a significant impact, then a finding of no significant impact is issued. If it is determined that there will be a significant environmental impact, then an Environmental Impact Statement must be prepared. This is a detailed evaluation of the project and the alternatives.

Part of compliance with the National Environmental Policy Act is the consideration of environmental justice. Executive Order 12898 "Federal Actions to Address Justice in Minority Populations and Low-Income Populations" was signed in 1994 and instructs federal departments and agencies to address any disproportionate and adverse effects of federal programs, policies and activities on minority and low-income populations. The NEPA document should identify existing minority and low-income populations, discuss public participation activities to increase minority and low-income participation, identify disproportionate high and adverse effects. If there are disproportionate high and adverse effects on minority and low-income populations then the document must discuss mitigation and alternatives. The protocol of avoidance first, then minimization, then offset or rectify should be used to minimize adverse effects. If there is a

disproportionate high and adverse effect after mitigation, then the document must evaluate if there is a further mitigation measure or a practicable alternative that would reduce the effect(s).

Other federal requirements in addition to NEPA also apply to transportation projects receiving federal funding. These requirements include: the Federal Water Pollution Control Act, Endangered Species Act and the National Historic Preservation Act. The Federal Water Pollution Control Act regulates water pollution through the control of discharge. For transportation projects a permit is required before construction or operation can begin in any situation that may result of discharge into navigable bodies of water. The Endangered Species Act requires that steps be taken to not jeopardize the existence or habitat of any endangered or threatened species. The National Historic Preservation Act requires that that for districts, sites, buildings, structures or objects on the National Register of Historic places, an assessment of the project's impact on that location must be completed.

Environmental Strategies and Resources

Strategies

Local jurisdictions should always follow federal guidance as their environmental strategy. The definition of mitigation in 40 CFR 1508.20 is:
   a. Avoiding the impact altogether by not taking a certain action or parts of an action.
   b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
   c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
   d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
   e. Compensating for the impact by replacing or providing substitute resources or environments.

Jurisdictions should attempt to avoid impact to the environment as part of their primary strategy. If this is not possible, then minimizing the impacts and restoring the affected environment can help minimize the negative effects of any projects. Figure 9.1 provides some examples of mitigation activities that may be undertaken for transportation projects.

Figure 9.1: Examples of General Mitigation Activities for Transportation Projects

Type	Activity
Avoidance	Alignment shifts or grade shifts to avoid habitat used by T&E species.
Avoidance	Bridging a wetland instead of constructing a paved surface through the area.
Minimization	Construction during off season to avoid distrupting T&E species during breeding season.
Minimization	Incorporation of drainage structures to control runoff into protected water resources.
Minimization	Construction of sound barriers to minimize noise impacts.
Minimization	Plant trees and/or vegetation to act as a visual screen.
Minimization	Control loose soil with watering, covering or barriers to prevent erosion and runoff.
Mitigation	Add to a park or recreation area to replace lost facilities.
Mitigation	Create or replace a wetland to compensate for lost habitat.
Mitigation	Develop bicycle and pedestrian trails adjacent to road street projects.
Mitigation	Create wildlife underpasses.

Natural and Cultural Resources

Water Resources. Within the region, watersheds and wetlands impact how land is used. The Des Moines River flows through Wapello and Van Buren counties and the North and South Skunk Rivers through Mahaska and Keokuk counties. Many wetlands are located along these rivers as shown in Map 9.1. Floodplains are also more likely to be in these areas. Both wetlands and floodplains may impact a project and should be identified during project development.   The location of wetlands may be identified using the US Fish and Wildlife Service's Wetlands Mapper: https://www.fws.gov/wetlands/Data/Mapper.html. The location of floodplains is available using the Federal Emergency Management's Flood Map Service: https://msc.fema.gov/portal/home.

Cultural and Historic Resources. There are many archaeologically significant sites within the region. These sites contain items of cultural and historic significance from either Native American or early European settlements within the region. Map 9.1 identifies the general areas of archaeologically significant sites.   The Iowa Department of Natural Resources and State Historic Preservation Office can help identified sensitive locations during project development.

Endangered Species. There are known endangered and threatened species within the region. The Indiana Bat is an endangered mammal and the Northern Long Eared Bat is threatened. Both the Prairie Bush Clover and the Western Prairie Fringed Orchid are threatened flowering plants. Map 9.2 identifies the general areas of threatened and endangered species within the region. The US Fish and Wildlife Service website for
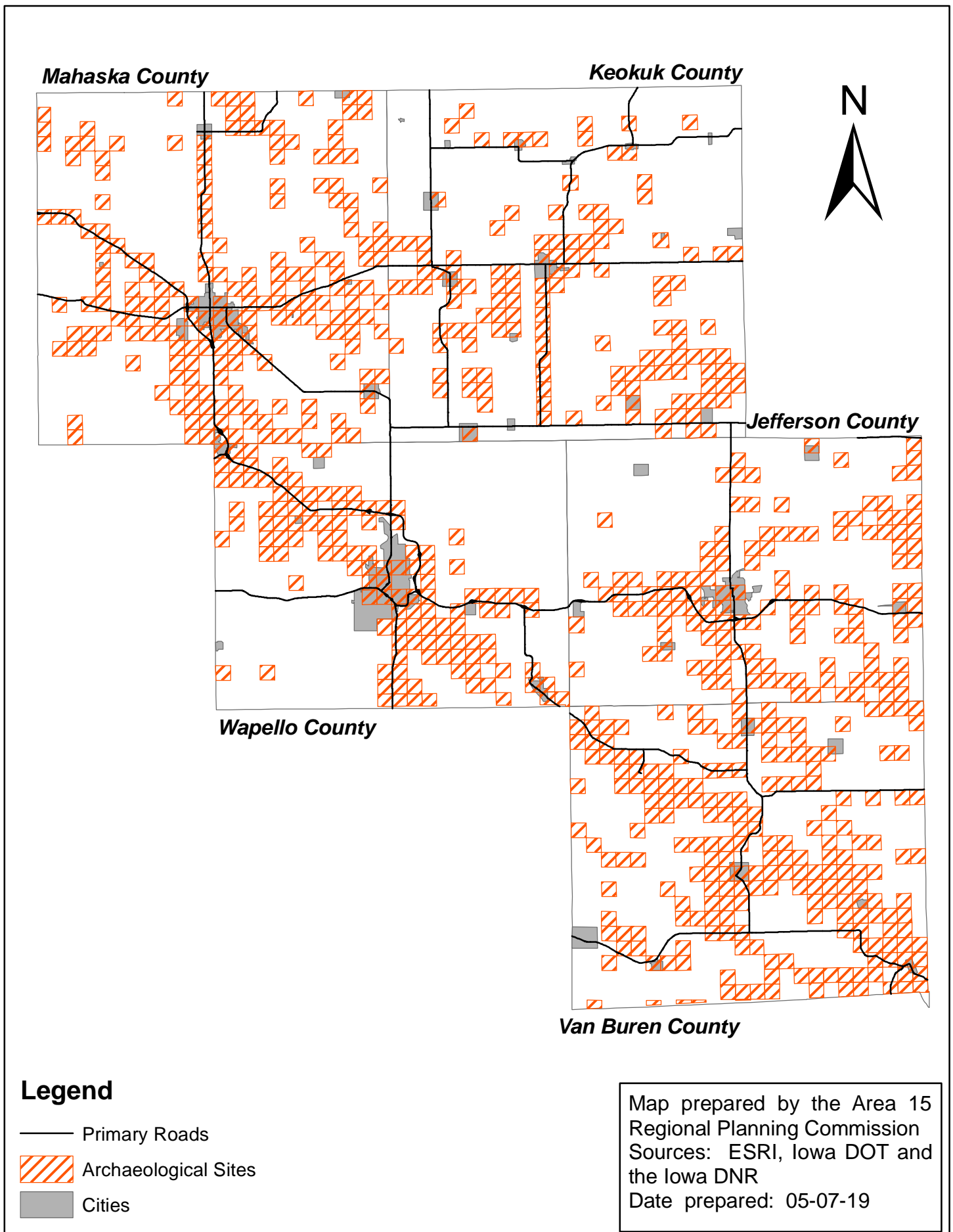
Endangered Species provides a listing of endangered and threatened species by county or location: https://www.fws.gov/midwest/endangered/lists/iowa_cty.html.
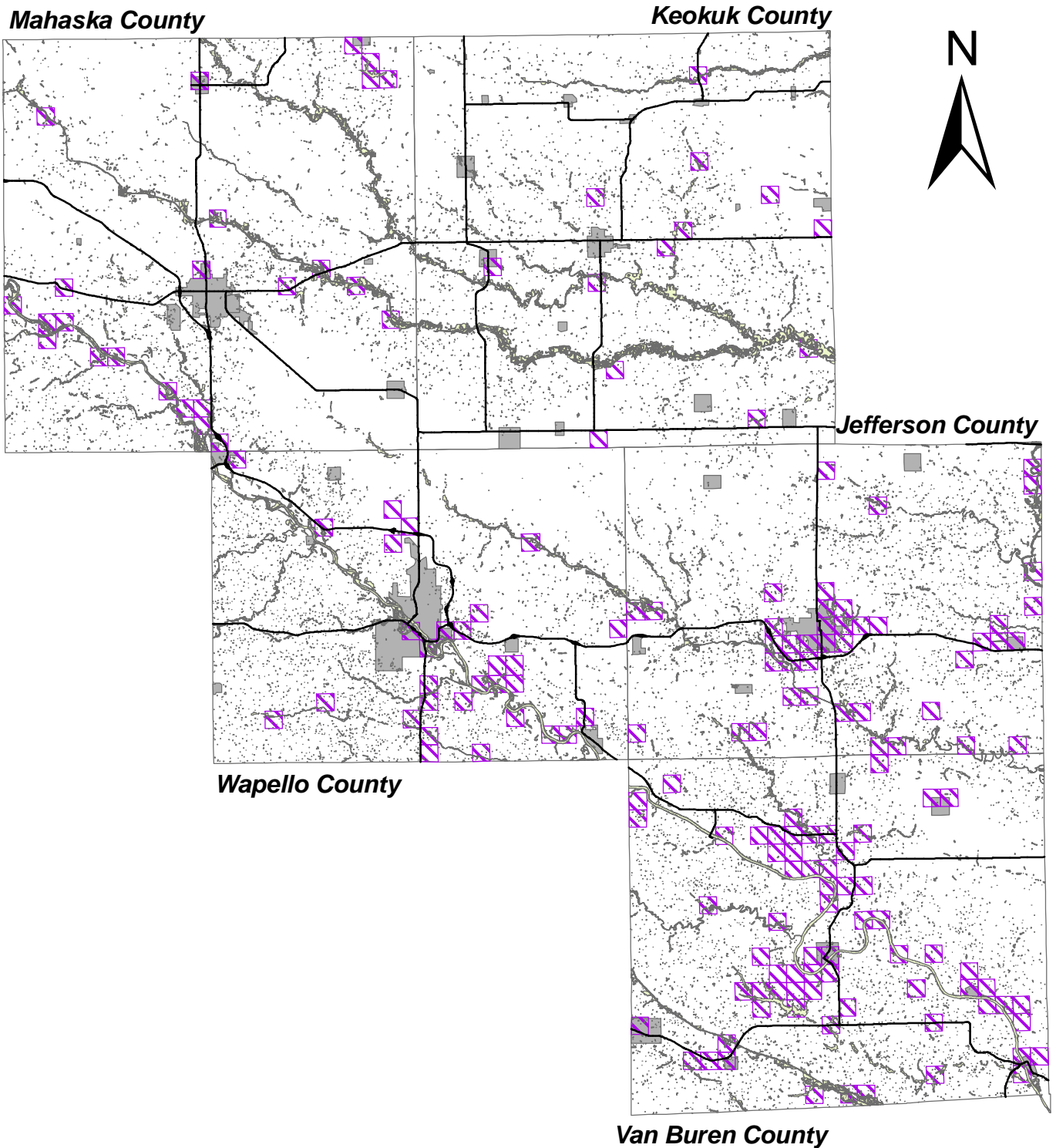
Consultation with Resource Agencies

The Regional Planning Affiliation consulted with resource agencies during the development of this Long-Range Transportation Plan to obtain copies of maps and plans. In addition, resource agencies were notified during the review process that the document was available, and their feedback was requested. The following resource agencies were consulted and notified:

- Federal Highway Administration
- Federal Transit Administration
- US Army Corps of Engineers
- Iowa Department of Natural Resources
- Iowa Department of Transportation
- County Conservation Boards
- County Engineers
- City Engineers/Public Works Directors (cities over 5,000)
- Neighboring Regional Planning Affiliations
- Iowa Natural Heritage Foundation
- Pathfinders Resource Conservation & Development

Map 9.1: Achaeological Sites

Mahaska County

Keokuk County

N

Jefferson County

Wapello County

Van Buren County

Legend

— Primary Roads

▧ Archaeological Sites

▨ Cities

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, Iowa DOT and the Iowa DNR
Date prepared: 05-07-19

Map 9.2: Threatened and Endangered Species

Mahaska County

Keokuk County

Jefferson County

Wapello County

Van Buren County

N

Legend

—— Primary Roads

Wetlands

T & E Species

Cities

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT and
the Iowa DNR
Date prepared: 05-07-19

Chapter 10: Financial Capacity

Funding is necessary to achieve the goals of this plan and to implement the projects identified in this plan. There are funding sources available at the local, state and federal levels for implementing a project. Some of these sources have been discussed in previous chapters, others will be identified in this chapter. The purpose of this chapter is to compare the costs of projects identified during the regional planning process to the anticipated funding.

Available Revenue Sources

Cities and counties have several revenue streams available for projects, these include local, state and federal funds. At the local level this includes tax revenue and general obligation bonds. State revenue available to cities and counties include a share of Road Use Tax funds and TIME 21 funds and the ability to apply for several grant programs that use state funds. The grant programs that use state funds are: Traffic Safety Improvement Program (TSIP), State Recreational Trails, Revitalize Iowa's Sound Economy (RISE), Traffic Engineering Assistance Program (TEAP), County-State Traffic Engineering Program (C-STEP), Urban-State Traffic Engineering Program (U-STEP) and the Railroad Revolving Loan and Grant Program (RRLGP). Federal funds include STBG/SWAP and TAP funds allocated through the RPA, Highway Bridge Program funds allocated directly to the counties and several grant programs administered by the Iowa DOT. The programs administered by the Iowa DOT include the Highway Safety Improvement Program Secondary (HSIP-Secondary), City and County Bridge, Iowa Clean Air Attainment Program (ICAAP), Linking Iowa's Freight Transportation System (LIFTS) and Federal Recreational Trails.

Figure 9.1 provides an overview of the funding sources available to cities and counties by type, if it is federal, state or local funding and identifies the funding program. It summarizes the project types that the funds may be used for, either roads and bridges or bicycle and pedestrian. And it lists the source that the city or county would apply to for the funds, the Iowa DOT, the Regional Planning Affiliation or if is a procedure the city/county implements.

Figure 10.1: Funding Sources for Transportation Projects

Funding Type	Funding Program	Project Type		Source
		Roads and Bridges	Bike and Ped	
Federal	STBG/SWAP*	X	X	RPA
	Highway Bridge Program	X		Iowa DOT
	TAP		X	RPA
	Statewide TAP		X	Iowa DOT
	HSIP-Secondary	X		Iowa DOT
	City and County Bridge	X		Iowa DOT
	ICAAP	X	X	Iowa DOT
	LIFTS	X		Iowa DOT
	Federal Rec Trails		X	Iowa DOT
State	TSIP	X		Iowa DOT
	State Rec Trails		X	Iowa DOT
	RISE	X		Iowa DOT
	TEAP	X	X	Iowa DOT
	C-STEP/U-STEP	X		Iowa DOT
	RRLGP^			Iowa DOT
	City Streets	X		Formula
	Secondary Roads	X		Formula
	Farm to Market	X		Formula
Local	Property Tax	X	X	City/County
	Local Option Sales Tax	X	X	City/County
	Tax Increment Financing	X	X	City/County
	General Obligation Bonds	X	X	City/County

STBG funds may also be used for transit capital projects and planning

^RRLGP funds are used for rail projects involving targeted job creation, network improvements, or rail port planning and development.

A discussion of funding sources relevant to specific modes may be found in that chapter. An up do date list of federal and state transportation grants may be found at: https://iowadot.gov/pol_leg_services/funding-guide.

History of STBG and TAP Funds and Future Funding Projections

The Regional Planning Affiliation received its first allocation of Surface Transportation Block Grant Funds in 1995. At that time the funds were referred to as Surface Transportation Program funds however their use was very similar to today. The amount allocated to the RPA that first year was $1,342,293, since that first year the amount

allocated each year has increased to the $2,649,492 the region is receiving in 2019. In 2006 and 7 the region saw a significant decrease due to a decline in obligation authority in 2005.

The RPA sub-allocates STBG funds to all the counties and to the cities with populations over 5,000. The region also sub-allocations for planning, regional transit and small cities/Iowa DOT (special projects). An amount that the counties used to receive under the old Federal Aid System prior to the creation of the RPAs is set aside first for the counties. The three amounts for planning, transit and special projects are set by the board. Cities with populations over 5,000 allocations are based on their population and a per capita rate. County allocations are based their percentage of the region's farm to market factor.

In 2018 the Iowa DOT implemented a new policy called SWAP for the 2019-2022 Statewide Transportation Improvement Program. This policy swapped federal funding from STBG, CMAQ, ICAAP, and HSIP for road and bridge projects for state primary road funds. The change had several impacts on the RPA funding. One impact is that under SWAP projects are now eligible for up to 100% funding, previously they were eligible for up to 80%. The RPA Technical Committee and Policy Board discussed this point as there were several large projects already programmed and SWAP eligible, the RPA did not have the available balance to increase the funds on all of these projects. The decision was made to keep these previously programmed projects at their current funding levels and accept new projects up to the 100% funding level. Another change is that projects on rural minor collectors were once again eligible. Both the TAC and Policy Board supported projects on minor collectors as it would assist rural communities in the region.

Figure 9.2 shows the history of STBG allocations for the region from 1995 through 2019. Figure 9.3 shows the history of STBG funds including the allocation and the programming each year and shows the available balance.

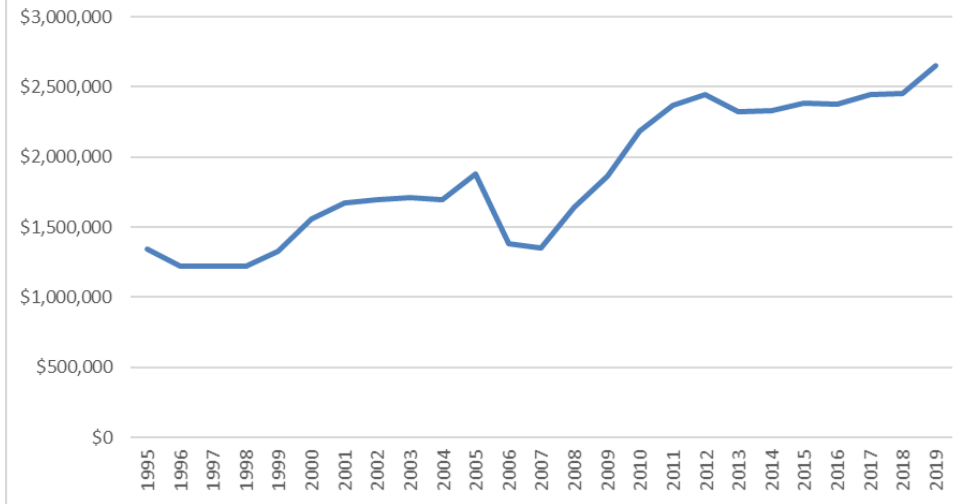Figure 10.2: History of RPA 15 STBG Allocations

Figure 10.3: History of RPA 15 STBG Funds

Year	Allocation	Programmed	Balance
95	1,342,293	717,226	625,067
96	1,218,000	1,159,700	683,367
97	1,218,000	1,157,530	743,837
98	1,218,000	1,961,260	577
99	1,328,000	646,535	682,042
00	1,559,000	549,577	1,691,465
01	1,675,000	687,927	2,678,538
02	1,693,105	1,266,180	3,105,463
03	1,711,677	1,720,255	3,096,885
04	1,692,944	1,438,150	3,351,679
05	1,880,901	3,429,199	1,803,381
06	1,382,433	503,908	2,681,906
07	1,353,618	3,628,035	407,489
08	1,644,190	804,354	1,247,325
09	1,865,713	2,097,304	1,015,734
10	2,184,340	74,777	3,125,297
11	2,370,653	1,226,926	4,269,024
12	2,442,696	2,322,149	4,389,571
13	2,326,603	636,630	6,079,544
14	2,331,470	3,064,368	5,346,646
15	2,387,498	1,230,000	6,504,144
16	2,374,794	3,231,882	5,647,056
17	2,444,518	6,498,255	1,593,319
18	2,450,618	2,530,700	1,513,237
19	2,649,492	2,968,960	1,193,769
20	2,734,957	3,021,664	907,062
21	2,581,000	1,496,880	1,991,182
22	2,581,000	1,208,320	3,363,862
23	2,581,000	2,055,354	3,889,508
TOTAL	57,223,513	53,334,005	3,889,508

Source: RPA 15 Balance Sheet

Transportation Alternative Program funds were also first allocated to the region in 1995. Originally these funds were referred to as Transportation Enhancement funds, they could be used for many of the same types of projects that TAP funds can be used for today. Initially the RPA was given almost $700,000 in 1995 to spread over four years. Starting in 1999 the region started to receive annual allocations and received $122,000 that year. From 1999 to 2013 the annual allocations of TAP funding increased to $180,837. With the change in federal legislation from SAFETEA-LU to MAP-21, TAP funding would see an almost 30% decrease if no changes were made. The Iowa DOT allocated flexible funds, called STBG-TAP Flex, to the regions. In order to prevent a shortfall in funding for TAP projects RPA 15 made the decision to allocate these flexible funds to TAP projects. Starting in 2014 the TAP balance includes both TAP and STBG-TAP Flex funds.

Figure 9.4 shows the history of TAP allocations in the region from 1995 through 2019. The history of TAP funds including the allocation and the programming for each year and available balance is shown in figure 9.5.
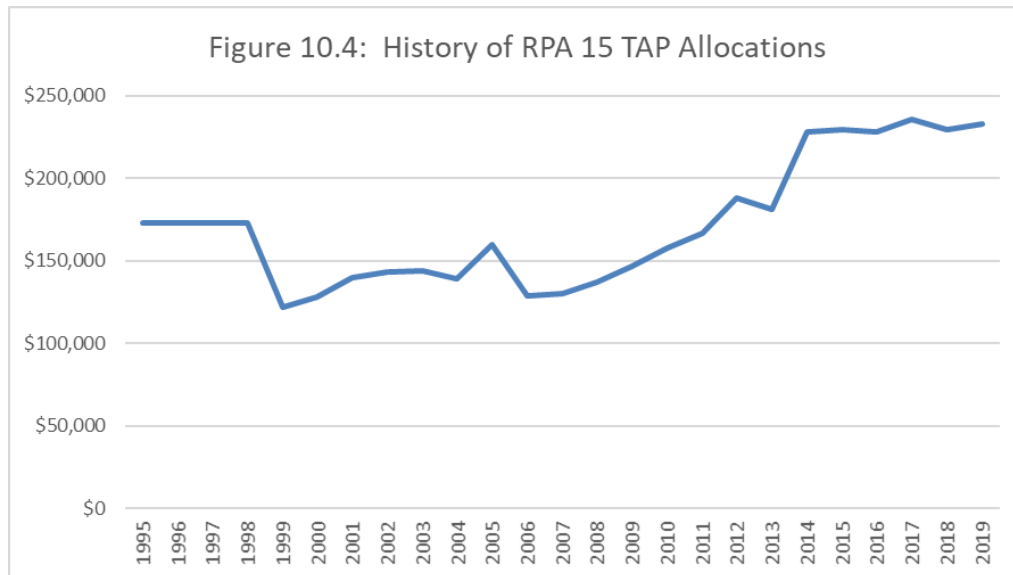
Figure 10.4: History of RPA 15 TAP Allocations

Figure 10.5: History of RPA 15 TAP Funds

Year	Allocation	Programmed	Balance
95	691,951	0	691,951
96		0	691,951
97		206,903	485,048
98		0	485,048
99	122,000	60,000	547,048
00	128,000	0	675,048
01	140,000	28,000	787,048
02	143,000	543,642	386,406
03	144,000	504,577	25,829
04	139,000	0	164,829
05	159,469	148,000	176,298
06	128,314	85,008	219,604
07	130,311	392,953	-43,038
08	136,762	161,451	-67,727
09	146,446	162,640	-83,921
10	157,514	268,170	-194,577
11	166,770	0	-27,807
12	188,267	0	160,460
13	180,837	0	341,297
14	227,963	0	569,260
15	229,705	240,000	558,965
16	228,237	185,600	601,602
17	235,337	509,744	327,195
18	229,290	0	556,485
19	232,589	128,000	661,074
20	228,347	732,000	157,421
21	228,000	0	385,421
22	228,000	320,000	293,421
23	228,000	0	521,421
TOTAL	5,198,109	4,676,688	521,421

Beginning in FFY14, the allocation includes both the TAP and STBG-TAP Flex funds.
Source: RPA 15 Balance Sheet

The Iowa Department of Transportation provides targets each year for the next four years of STBG and TAP funds. These targets provide a forecast of what the region may expect with these two revenue sources over the short term. The region used these targets for the first four years of projections for the STBG and TAP funds. Figure 9.6 shows the regions projections for the next twenty years. STBG projections beyond the four years of targets were based on the average of the year-to-year change for the past ten years, which equals $78,378. TAP projections beyond the four years were based on the average of the year-to-year change for the past five years, which equals $925. The reason TAP projections are based on five years of history instead of ten is that starting in 2014 the RPA started to add its STBG-TAP Flex with its TAP funds, this large increase of $47,126 in one year would have skewed the average year-to-year change.

While STBG-Bridge funds are no longer programmed by the RPA, they are included in figure 9.6 since they are allocated directly to the counties by formula and are a funding source the counties regularly use. STBG-Bridge projections are based on the region's ten-year average per year. A regular level of increase cannot be easily determined for this program since each county's percent of the funding is based on their share of deficient bridges which fluctuate each year.

Figure 10.6: Future Funding Projections for RPA 15			
	STBG	TAP	STBG-Bridge
2020	$2,734,957	$228,347	$1,764,014
2021	$2,581,000	$228,000	$1,764,014
2022	$2,581,000	$228,000	$1,764,014
2023	$2,581,000	$228,000	$1,764,014
2024	$2,659,378	$228,925	$1,764,014
2025	$2,737,756	$229,850	$1,764,014
2026	$2,816,134	$230,775	$1,764,014
2027	$2,894,512	$231,700	$1,764,014
2028	$2,972,890	$232,625	$1,764,014
2029	$3,051,268	$233,550	$1,764,014
2030	$3,129,646	$234,475	$1,764,014
2031	$3,208,024	$235,400	$1,764,014
2032	$3,286,402	$236,325	$1,764,014
2033	$3,364,780	$237,250	$1,764,014
2034	$3,443,158	$238,175	$1,764,014
2035	$3,521,536	$239,100	$1,764,014
2036	$3,599,914	$240,025	$1,764,014
2037	$3,678,292	$240,950	$1,764,014
2038	$3,756,670	$241,875	$1,764,014
2039	$3,835,048	$242,800	$1,764,014
2040	$3,913,426	$243,725	$1,764,014

Based off 2020-3 STBG and TAP Targets and 2007-18 HBP funding summary

2020-3 STBG and TAP are actual targets

2024-40 STBG assumes $78,378 increase per yr, avg increase per yr over last 10yrs

2024-40 TAP assumes $925 increase per yr, avg incrase per yr over last 5 years

2020-40 STBG-Bridge assumes region's 10yr average per yr

Operations and Maintenance Cost Projections and Non-Federal Aid Revenue Projections

After a road or street is built there are still costs to the jurisdiction associated with that facility. These operation and maintenance costs must be considered by local jurisdictions when assessing their road and street system. For the purpose of this plan, operations and maintenance reports from the Iowa DOT were used, which obtain their information from the City Street Finance Reports and the County Secondary Road Reports. Anticipated Operations and Maintenance costs were determined for the entire system from the 2018 report year and increased by an inflation rate of four percent to project the costs for the 2020-2040 plan window as shown in figure 9.7.

Figure 10.7: Operations and Maintenance Cost History and Projections on the Total System in the RPA 15 Region

	County Operations	County Maintenance	City Operations	City Maintenance
2014	$6,919,105	$12,622,672	$1,439,325	$6,022,647
2015	$6,519,782	$13,020,600	$1,450,969	$6,039,141
2016	$6,753,365	$15,911,718	$1,327,274	$6,604,709
2017	$6,572,142	$15,623,421	$1,394,114	$7,442,642
2018	$7,755,921	$15,135,864	$1,412,957	$11,645,507
2020	$8,388,804	$16,370,951	$1,528,254	$12,595,780
2021	$8,724,356	$17,025,789	$1,589,384	$13,099,611
2022	$9,073,330	$17,706,821	$1,652,960	$13,623,596
2023	$9,436,264	$18,415,093	$1,719,078	$14,168,539
2024	$9,813,714	$19,151,697	$1,787,841	$14,735,281
2025	$10,206,263	$19,917,765	$1,859,355	$15,324,692
2026	$10,614,513	$20,714,476	$1,933,729	$15,937,680
2027	$11,039,094	$21,543,055	$2,011,078	$16,575,187
2028	$11,480,658	$22,404,777	$2,091,521	$17,238,195
2029	$11,939,884	$23,300,968	$2,175,182	$17,927,722
2030	$12,417,479	$24,233,007	$2,262,189	$18,644,831
2031	$12,914,178	$25,202,327	$2,352,677	$19,390,625
2032	$13,430,745	$26,210,420	$2,446,784	$20,166,250
2033	$13,967,975	$27,258,837	$2,544,655	$20,972,900
2034	$14,526,694	$28,349,190	$2,646,441	$21,811,816
2035	$15,107,762	$29,483,158	$2,752,299	$22,684,288
2036	$15,712,073	$30,662,484	$2,862,391	$23,591,660
2037	$16,340,555	$31,888,984	$2,976,887	$24,535,326
2038	$16,994,178	$33,164,543	$3,095,962	$25,516,739
2039	$17,673,945	$34,491,125	$3,219,801	$26,537,409
2040	$18,380,903	$35,870,770	$3,348,593	$27,598,905

History based off of 2014-18 County and City O-M reports

Projections based off of 2018 FM, Secondary Road and City Street reports

Assumes 4% inflationary growth per year

The non-federal aid system makes up a majority of a jurisdiction's roads and streets. While some grants may be used on non-federal aid routes most of the funding is through the Road Use Tax Fund (RUTF) and local mechanisms discussed previously. The RUTF provides funds to cities through the City Street fund and to the counties through the Farm-to-Market and Secondary Road funds. To estimate future revenues from the RUTF, 2017 City Street, County Farm-to-Market and Secondary Road receipt reports from the Iowa DOT were used. Figure 9.8 shows future revenues for each of these three revenue streams. Revenues were projected from the 2018 report year by an inflation rate of two percent to project the revenues for the life of the plan.

Figure 10.8: Non-Federal Aid Revenue History and Projections for the RPA 15 Region			
	Farm to Market	Secondary Road	City Street
2014	$3,698,185	$20,519,374	$15,913,188
2015	$3,861,609	$21,078,469	$15,886,363
2016	$4,616,489	$23,157,972	$21,239,448
2017	$4,775,481	$24,596,465	$20,195,940
2018	$4,600,004	$28,018,105	$18,862,320
2020	$4,785,844	$29,150,036	$19,624,358
2021	$4,881,561	$29,733,037	$20,016,845
2022	$4,979,192	$30,327,697	$20,417,182
2023	$5,078,776	$30,934,251	$20,825,526
2024	$5,180,351	$31,552,936	$21,242,036
2025	$5,283,958	$32,183,995	$21,666,877
2026	$5,389,638	$32,827,675	$22,100,214
2027	$5,497,430	$33,484,229	$22,542,219
2028	$5,607,379	$34,153,913	$22,993,063
2029	$5,719,527	$34,836,991	$23,452,924
2030	$5,833,917	$35,533,731	$23,921,983
2031	$5,950,595	$36,244,406	$24,400,423
2032	$6,069,607	$36,969,294	$24,888,431
2033	$6,191,000	$37,708,680	$25,386,200
2034	$6,314,820	$38,462,853	$25,893,924
2035	$6,441,116	$39,232,111	$26,411,802
2036	$6,569,938	$40,016,753	$26,940,038
2037	$6,701,337	$40,817,088	$27,478,839
2038	$6,835,364	$41,633,430	$28,028,416
2039	$6,972,071	$42,466,098	$28,588,984
2040	$7,111,512	$43,315,420	$29,160,764
History based off of 2014-18 County and City O-M reports			
Projections based off of 2018 FM, Secondary Road and City Street reports			
Assumes 2% revenue growth per year			

Short-Term Fiscally Constrained Projects

STBG/SWAP and TAP projects programmed by the RPA should be fiscally constrained. For STBG/SWAP projects, the project costs cannot exceed the carryover balance from the previous year and the target for the year that the projects are programmed. Figure 9.9 provides a list of planned STBG/SWAP projects for FY2020-2023 and shows the project's cost, the region's STBG allocation and balance for each year. This figure shows how the region has maintained fiscal constraint throughout the four years. The RPA does have some flexibility with TAP funds in that it only needs to maintain fiscal constraint within the entirety of the four years and not every year. This is due to the Iowa DOT allowing RPAs and MPOs to borrow TAP funds against each other with the DOT making sure the program as a whole is fiscally constrained. A list of the planned TAP projects for 2020-2023 is shown in figure 9.10, this figure shows the costs, the regions allocation and balance each year. While the RPA's TAP balance is negative at the end of 2020, and slightly negative at the end of 2022, it is fiscally constrained within the overall four-year timeframe.

Figure 10.9: Short-Term Fiscally Constrained STBG/SWAP Projects (Years 1-4) in RPA 15				
Location	Project	Total Cost	Aid	Year
	STBG Balance (carryover)		**$1,193,769**	**2019**
	STBG Target		**$2,734,957**	**2020**
RPA 15	Planning	$106,024	$31,656	2020
Fairfield	PE for milling and overlay on 4th St from Broadway Av to BNSF ROW	$30,500	$30,500	2020
Fairfield	PE for HMA overlay on 32nd St from Jackpine Loop to Burlington Ave	$60,000	$60,000	2020
Ottumwa	Milner St reconstruction from Burhhus to Mary St	$2,036,885	$1,629,508	2020
Jefferson Co	W21 pavement HMA surfacing from 167th St to North Walnut Creek	$1,485,000	$570,000	2020
Jefferson Co	W40 pavement rehab from 190th to 218th St	$700,000	$700,000	2020
	Balance		**$907,062**	**2020**
	STBG Target		**$2,581,000**	**2021**
Fairfield	Final design for IA 1/S Main widening from Fillmore to 200ft S of Libertyville Rd	$219,600	$151,680	2021
Fairfield	Milling and overlay on 4th St from Broadway Av to BNSF ROW	$417,200	$417,200	2021
Fairfield	HMA overlay on 32nd St from Jackpine Loop to Burlington Ave	$708,000	$708,000	2021
Jefferson Co	W40 pavement rehab from 150th to Washington Co line	$2,350,000	$220,000	2021
	Balance		**$1,991,182**	**2021**
	STBG Target		**$2,581,000**	**2022**
Fairfield	Const insp for IA 1/S Main widening from Fillmore to 200ft S of Libertyville Rd	$335,000	$8,320	2022
Keokuk Co	G29 paving from Mahaska Co line to IA 21	$1,500,000	$1,200,000	2022
	Balance		**$3,363,862**	**2022**
	STBG Target		**$2,581,000**	**2023**
Ottumwa	Mary St PCC reconstruction from Ferry St to Shaul Av	$2,197,128	$2,055,354	2023
	Balance		**$3,889,508**	**2023**

Source: RPA 15 2019-22 TIP, 2020-3 Targets and 2020-3 STBG/SWAP applications

Figure 10.10: Short-Term Fiscally Constrained TAP Projects (Years 1-4) in RPA 15

Location	Project	Total Cost	Aid	Year
	TAP Balance (carryover)		**$661,074**	**2019**
	TAP Target		**$228,347**	**2020**
Keokuk Co	Belva Deer Recreation Area Trail Project Phase 3	$915,000	$732,000	2020
Ottumwa	8 ft trail along Milner St from Mary St to Richmond Av	$377,170	$301,735	2020
	Balance		**-$144,314**	**2020**
	TAP Target		**$228,000**	**2021**
	Balance		**$83,686**	**2021**
	TAP Target		$228,000	2022
Fairfield	IA 1/S Main widen frm Fillmore to S of Libertyville Rd, incl bike/ped accom	$3,352,800	$320,000	2022
	Balance		**-$8,314**	**2022**
	TAP Target		**$228,000**	**2023**
	Balance		**$219,686**	**2023**

Source: RPA 15 2019-22 TIP, 2020-3 Targets and 2020-3 TAP applications

Long-Term Projects, or Areas of Interest or Concern

Projects beyond the four years of TIP are not fiscally constrained. These are projects that have not started development and may not have cost estimates. Figure 9.11 lists long-term future projects outside of the 2020-2023 Transportation Improvement Program. These projects may be developed and submitted for inclusion in a later TIP.

Figure 10.11: Long-Term Projects, or Areas of Interest or Concern (Years 5-20) in RPA 15

Location	Project
Fairfield	Old US 34/Burlington Road resurfacing w/in city limits
Jefferson Co	Old Us 34/Bus 34 resurfacing East and West of Fairfield
Fairfield	Bus 34 bridge replacement east of Fairfield
Keokuk Co	V45 repaving from Sigourney to Keswick
Keokuk Co	W15 repaving from Richland to 277th
Keokuk Co	G13 repaving from IA 78 to Ollie
Mahaska Co	T38 repaving from G79 to Blums Corner
Mahaska Co	G29 repaving from US63 to Independence
Mahaska Co	G5T repaving from Skunk River to US63
Mahaska Co	G17 repaving from US63 to V13
Van Buren Co	J40 repaving from Davis Co to Keosauqua
Van Buren Co	V64 repaving from J40 to IA 16

Source: RPA 15 Technical Advisory Committee

Project Selection Process for STBG and TAP Funds

The RPA project selection process for STBG funds includes a combination of sub-allocation, discussion and consensus and scoring. Funds are sub-allocated to all of the counties and to the cities with populations over 5,000. There are also set asides for planning, regional transit and special projects. Small cities and DOT projects are funded through the special projects set aside. Ottumwa Transit is funded from the City of Ottumwa's allocation as it is a department of the city. In order to be considered for funding, a project application must be submitted to the RPA. The application includes a project description, timeline, cost breakdown, project location and map, and self-scoring/rating criteria that looks at traffic, connectivity, federal functional classification, safety and if the project is in the long-range plan.

Applications are reviewed by the RPA staff for eligibility and then are presented at a Technical Advisory Committee meeting where the applicant is asked to make a presentation on their project and the committee has a chance to ask questions. After the presentation of all of the application the committee then discusses the projects and makes a recommendation on the projects to fund and funding level that is presented to the policy board along with the project applications. The Policy Board reviews the projects and the technical committee's recommendation before making the decision whether to program each project for funding. Projects approved by the Policy Board are then added to the Transportation Improvement Program.

The application process for TAP funds uses a combination of scoring and discussion and consensus. The application used is the standard Iowa DOT application for Transportation Alternatives funds. After receiving the TAP applications, they are sent to Iowa DOT for review of eligibility and comment. Once comments have been received back by the RPA staff they are presented to the Technical Advisory Committee by the applicant where the committee can ask questions. After the presentations the committee scores the projects, scores are averaged together for each project and the average be 60 points or greater for the project to be considered for funding. The TAC then discusses the projects and makes recommendations for funding. This recommendation is presented to the Policy Board along with each project application and their scores. The Policy Board reviews the recommendations and projects and makes the funding decision on each project. Approved projects are included in the Transportation Improvement Program.

Reasonableness of Sub-Allocation

Sub-allocation of STBG funds is used by the RPA to maintain equity between the cities and counties. The region is flexible with sub-allocation targets and encourages spending ahead to keep STBG balances from accumulating and to encourage the development of projects. The cities and counties are satisfied with the process described above and believe that sub-allocation helps them plan for future projects and is equitable.

Appendix A: Ottumwa Bicycle and Pedestrian Plan

![Ottumwa Bicycle and Pedestrian Plan — Pathways to Healthy Neighborhoods. Priority 1 Corridors - North Side map prepared by the Area 15 Regional Planning Commission.]

Legend
- Existing Trails
- Proposed Trails
- Trailheads/Parking (P)
- 8ft Sidepath (8)
- 6ft Sidewalk (6)
- Priority 1 Corridor
- Existing Corridor
- Parks
- Schools
- Destinations
- Major Commercial Areas
- Major Employers
- High Density Housing
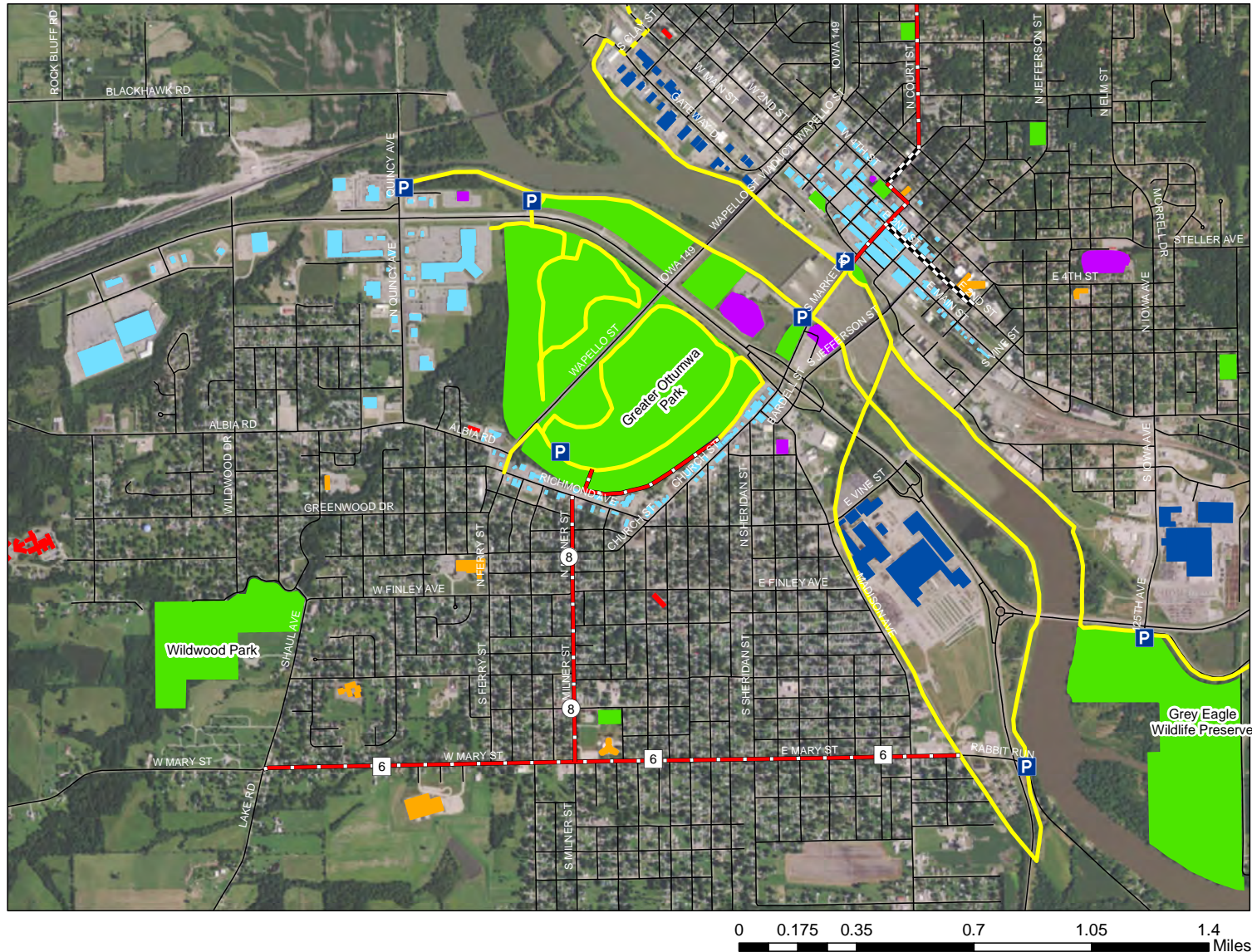
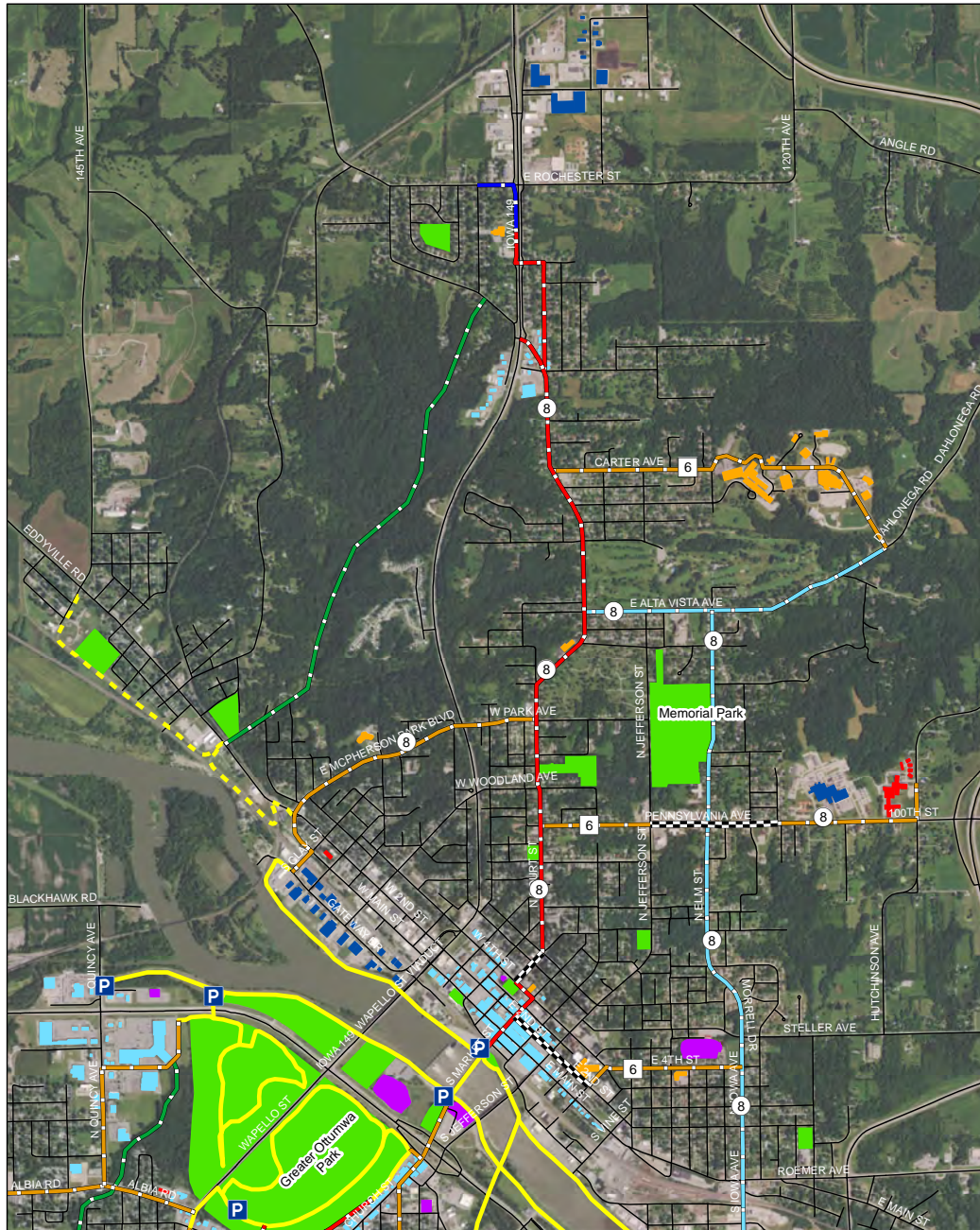0   0.2   0.4   0.8   1.2   1.6 Miles

N

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, Iowa DOT, Wapello County GIS, Wapello County Trails Council.
Date prepared: 06-01-17

Ottumwa Bicycle and Pedestrian Plan

Pathways to Healthy Neighborhoods

AREA 15
REGIONAL PLANNING COMMISSION
PLANNING FOR BETTER COMMUNITIES

Priority 1 Corridors - South Side

N

Legend

- **P** Trailheads/Parking
- **8** 8ft Sidepath
- **6** 6ft Sidewalk
- Priority 1 corridor
- Existing corridor
- Existing Trails
- Proposed Trails
- High Density Housing
- Major Employers
- Schools
- Destinations
- Major Commercial Areas
- Parks

0   0.175   0.35   0.7   1.05   1.4 Miles

![AREA 15 REGIONAL PLANNING COMMISSION — PLANNING FOR BETTER COMMUNITIES]

Ottumwa Bicycle and Pedestrian Plan

Pathways to Healthy Neighborhoods

All Corridors - North Side

0   0.2   0.4   0.8   1.2   1.6
Miles

N

Legend

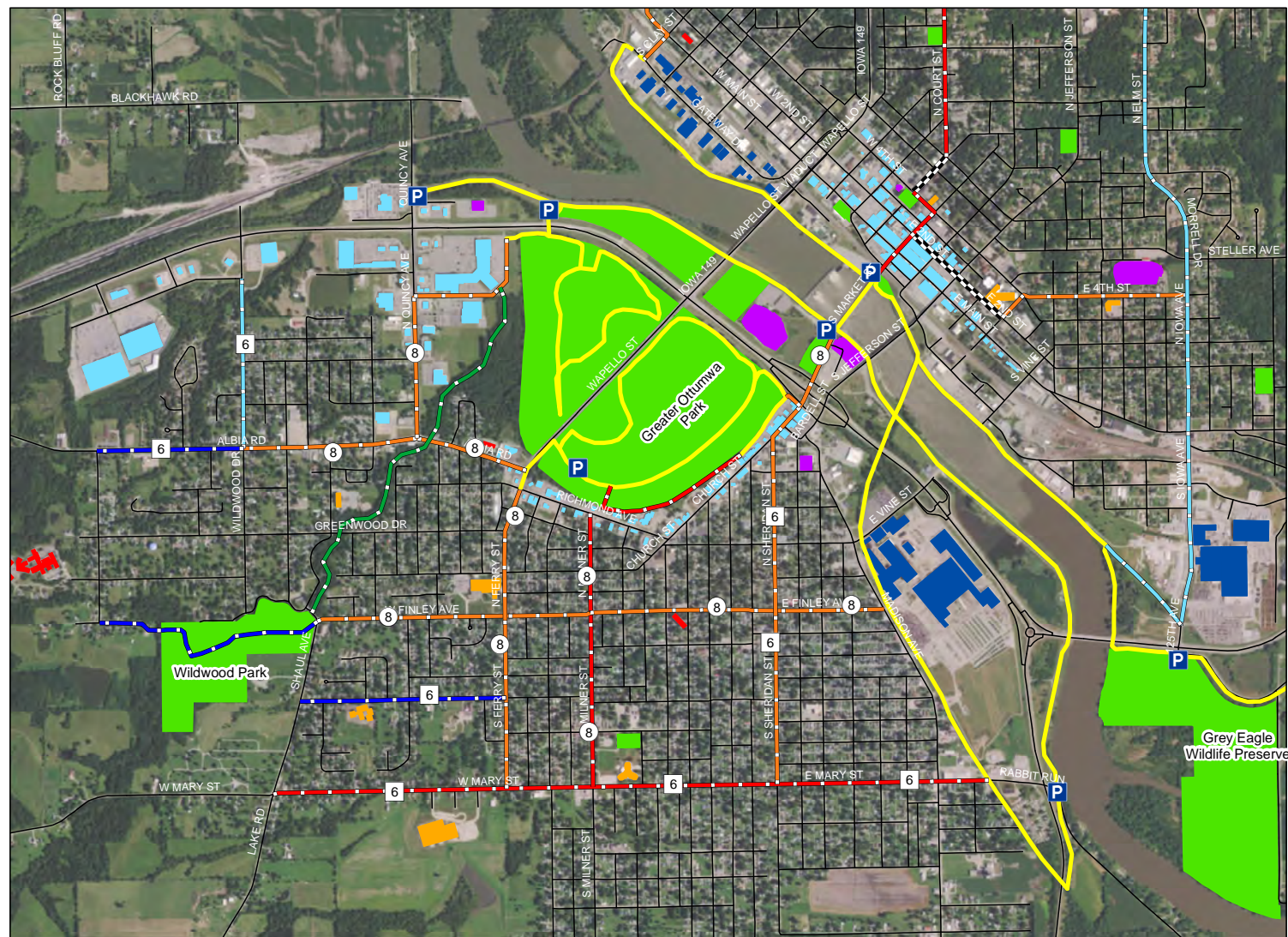|		
Existing Trails	Priority 3 Corridor	Destinations
Proposed Trails	Priority 4 Corridor	Major Commercial Areas
Trailheads/Parking	Scenic Corridor	Major Employers
8ft Sidepath	Existing Corridor	High Density Housing
6ft Sidewalk	Parks	
Priority 1 Corridor	Schools	
Priority 2 Corridor		

Map prepared by the Area 15
Regional Planning Commission
Sources: ESRI, Iowa DOT,
Wapello County GIS, Wapello
County Trails Council.
Date prepared: 06-01-17

Ottumwa Bicycle and Pedestrian Plan

Pathways to Healthy Neighborhoods

AREA 15
REGIONAL PLANNING COMMISSION

PLANNING FOR BETTER COMMUNITIES

All Corridors - South Side

N

Legend

P	Trailheads/Parking
8	8ft Sidepath
6	6ft Sidewalk
——	Scenic Corridor
——	Priority 1 corridor
——	Priority 2 Corridor
——	Priority 3 Corridor
——	Priority 4 Corridor
▪▪▪	Existing corridor
——	Existing Trails
- - -	Proposed Trails
■	High Density Housing
■	Major Employers
■	Schools
■	Destinations
■	Major Commercial Areas
■	Parks

Map prepared by the Area 15 Regional Planning Commission
Sources: ESRI, Iowa DOT, Wapello County GIS, Wapello County Trails Council.
Date prepared: 06-01-17

0   0.175   0.35   0.7   1.05   1.4
Miles

Appendix B: 2040 Long-Range Transportation Plan Survey

Which best describes where you currently live?
• Rural/unincorporated area.
• Town under 5,000.
• City over 5,000.

Which best describes how you travel to work?

• Drive alone.
• Carpool/van pool.
• Public Transit.
• Taxi.
• Bike/walk.
• Telecommute.
• Work at home/not employed.

How often do you? (daily, weekly, monthly, rarely or never)
• Use public transit such as 10-15 Transit or Ottumwa Transit?
• Use the trail system in your community?
• Use the Amtrak service in Ottumwa?
• Use an intercity bus service such as Burlington Trailways?

Based on the current condition of the transportation system is too much, too little or the right amount being spent in the following areas:
• Maintenance and repair of existing roads.
• Safety improvements.
• Traffic flow and congestion mitigation.
• Snow removal/gravel.
• Bridge maintenance and repair.
• Public Transit.
• Bicycle and Pedestrian improvements.
• Passenger Rail.

Please provide any comments you have on the 2040 Long-Range Transportation Plan in the box below.